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Teaching ■ ■ Mouth Health IN North Carolina

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DIVISION OF ORAL HYGIENE
North Carolina State Board of Health
Raleigh, N. C.

A HANDBOOK FOR TEACHERS

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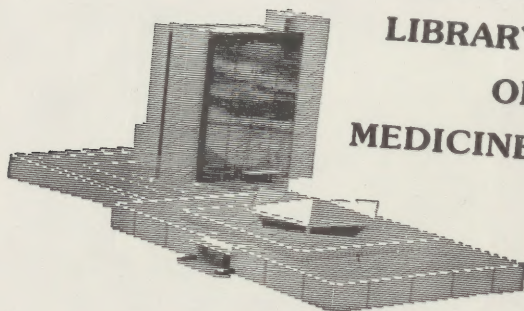
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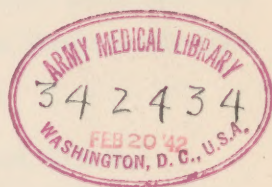
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THE PUBLIC HEALTH DENTIST KNOWS HOW TO COUNTERACT THE FEAR OF THE DENTAL CHAIR.

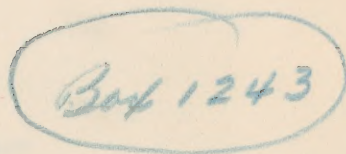
TEACHING MOUTH HEALTH IN NORTH CAROLINA

*A Handbook
For Teachers*



By ✓
CAROLYN MORTON MERCER
Educational Consultant
DIVISION OF ORAL HYGIENE
NORTH CAROLINA STATE BOARD OF HEALTH

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Foreword

The Division of Oral Hygiene of the North Carolina State Board of Health takes great pleasure in offering this handbook for use by the teachers in the elementary schools of the State. The book is designed to give those interested in the health of children pertinent information on the subject of mouth health and to suggest goals, content and tool materials for an effective mouth health education program. The facts presented are scientifically sound, and the proposed teaching procedures and activities are in accord with accepted educational principles and practices. We believe that TEACHING MOUTH HEALTH will fill a long felt need in the field of health education.

ERNEST A. BRANCH, D.D.S.,

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Introduction

Mouth Health, as the title of a subject matter area, requires no definition, but an interpretation of its full connotation may add to its significance. There are several expressions used in reference to the care of the teeth and mouth, the most common of which are oral hygiene and dental hygiene. The phrase, mouth health, embraces more than these. It suggests, in addition to cleanliness and preservation of the teeth, sound, well-built teeth and healthy supporting tissues. It is a positive term expressing a desirable condition. Its very use keeps before the teacher and those being taught the ideal for which they are striving, the health of the mouth.

This is indeed an ideal or objective worth striving for, because of its esthetic and health values. "Nothing does more to aid good appearance and beauty than a full set of healthy, well-formed teeth."¹ Conversely, nothing detracts from good looks more than unsightly teeth. To present an attractive appearance, teeth need not be perfectly shaped and spaced, but they do need to be there and in a clean, healthy condition.

A healthy mouth is requisite for good general health. Of course this is true of any part of the body in the sense that the health of the whole is affected by that of any of its members. But there are other vital connections between mouth health and general health.

The mouth has very aptly been called the gateway of the body. This has a very definite bearing upon the health of the body. Many of the communicable diseases are caused by germs, or micro-organisms, which enter the body through the nose and mouth. When the mouth is in a healthy condition, it is naturally resistant to these bacteria. When it is not in a clean, healthy state, it is hospitable to the bacteria and provides favorable conditions for their propagation. A clean, healthy mouth, then, aids good health by being hostile to disease producing micro-organisms.

Digestion starts in the mouth, hence the health of the mouth influences this life process. While the teeth are doing their part in preparing food for digestion, substances in the saliva are producing the first digestive changes in the starches. Therefore, thorough chewing of food is necessary, not only as a mechanical aid, but also as a factor in the proper functioning of the digestive

¹ A. M. Wiecking and C. L. Drain, *A Handbook of Dental Health Education for the Elementary School Teacher* (Bulletin of the State University of Iowa, Iowa City: University of Iowa, 1934), p. 11.

substances of the saliva. Of course, proper chewing depends upon good teeth.

As potential sources of infection, diseased teeth and gums may affect very seriously the health of the body. Sir William Hunter, a pioneer in calling to the attention of the dental and medical professions the dangers of focal infection of dental origin, wrote: "My clinical experience satisfies me that if oral sepsis could be excluded the other channels by which medical sepsis gains entrance into the body might almost be ignored."² The late Dr. Charles H. Mayo has been quoted as follows: "... over 60 per cent of the cases in the Mayo Clinic come there as a result of oral infection."³ Surely, the statements of these two authorities may be accepted as proof that dental infections may have a far-reaching influence on general health.

In view of these relationships of mouth health to general health, the present status of mouth health conditions, as revealed by statistics, constitutes a major health problem. "Dentally speaking, studies and surveys have shown that over 95 per cent of the so-called normal have dental defects."⁴ In all studies of the physical defects of school children dental impairments are found to be the most prevalent. "According to a survey made by the United States Public Health Service in conjunction with the American Dental Association, in 1933 and 1934, the examination of school children, aged 6 to 14 years, revealed dental defects in over 90 per cent of cases."⁵ Other studies and reports indicate that from 95 to 98 per cent of the child population of the country suffers from dental decay.

Although the conditions among the school children of North Carolina are better than in the nation as a whole, a serious problem exists in this State. In 1934 the members of the North Carolina Dental Society made a survey of dental conditions in the elementary schools of the State. Of the approximately 300,000 children examined, 84 per cent needed dental attention. No further evidence is needed to show the existence of a situation that should be remedied.

As is true of all problems which affect such a large proportion of the population, education offers the only practical and lasting solution. It is believed that the better teeth of North Carolina children may be attributed to the educational program of the Division of Oral Hygiene of the North Carolina State

² Leroy M. S. Miner, *The New Dentistry* (Cambridge: Harvard University Press, 1933), pp. 182-183.

³ J. A. Salzmann, *Principles and Practice of Public Health Dentistry* (Boston: The Stratford Company, 1937), p. 205.

⁴ Salzmann, *Principles and Practice of Public Health Dentistry*, p. 102.

⁵ Taliaferro Clark and H. B. Butler, (Rev. by R. S. Lloyd), "Children's Teeth, A Community Responsibility," Reprint No. 622 from the *Public Health Reports* (Washington: United States Government Printing Office, 1937), p. 1.

Board of Health. In 1918 North Carolina achieved another "first" when the State Board of Health instituted a dental health program in the public schools. In 1931 the Division of Oral Hygiene was created. This Division is still directing its major endeavor along educational lines in the elementary schools of the State.

The Division of Oral Hygiene has, in addition to a director, a staff of school dentists and an educational consultant. The dentists go into the classrooms and teach the children. They try to impress on the children the importance of having clean, healthy mouths and to instruct them in the proper ways of caring for their teeth and mouths. The school dentists are trained not only in the profession of dentistry, but also in the art of teaching and in child psychology. Thus, they are authorities on the subject of mouth health and are well prepared to present it acceptably in the various grades. To reinforce and follow up their teaching, the dentists have some graded educational material, prepared by the educational consultant of the Division, to leave with the teachers.

After teaching in each of the elementary grades, the dentists inspect the mouths of all of the children who are under thirteen years of age. They then make the necessary dental corrections, free of charge, for the under-privileged children. The parents of the other pupils who need dental attention are notified of this through the mail and are advised to consult their own dentists. For this latter group of children no diagnoses are made. The teachers classify the children as to their parents' ability to pay for their dental work. The corrective work for the under-privileged children is termed demonstrative teaching.

Another feature of the program of the Division of Oral Hygiene is a visual education project in the form of a dental health puppet show. With the coöperation of the Good Teeth Council for Children, this show has been touring the elementary schools of the State for the last five years. It has been found to be a very effective method of teaching mouth health.

Seventy-five of the one hundred counties in North Carolina participate in this Mouth Health Education Program. Each of these participating counties bears one-half of the expense of the program in its schools, and the State Board of Health defrays the other half. The duration of the dental program in a particular county is determined by the size of the county, the school enrollment and the county appropriation for the activity. In most of the counties the dentists can visit each school only once

every two years. This means that the burden of the responsibility for teaching mouth health rests with the classroom teachers. This is as it should be, for authorities agree that "health should be taught by the classroom teacher."⁶ The dentists' teaching should serve to stimulate the classroom teachers and should create among the children a genuine interest in mouth health, which the teachers can utilize to motivate their teaching.

The classroom teachers have coöperated with and helped the school dentists in conducting their programs in the schools. And, indeed, much of the success of the activity may be attributed to the assistance and support of the superintendents, principals and teachers throughout the State. Many of the teachers have manifested their interest in the mouth health of the children in their classrooms by continuing the instruction inaugurated by the school dentists. Scrap-books, posters, plays and projects give evidence that mouth health is being taught. Requests for material to help them in teaching mouth health offer further proof that the classroom teachers in the elementary schools of North Carolina are cognizant of their opportunities and responsibilities in this field of health education.

It is to show the appreciation of the Division of Oral Hygiene for the coöperation of the teachers and to aid them in teaching mouth health that this handbook is designed. In the following pages will be found *factual material* compiled to give teachers a background of knowledge concerning the mouth and teeth; an analysis of the outstanding *needs* of children in regard to the health of the mouth; a formulation of the *aims* or *goals* in terms of the desired outcomes of mouth health teaching; *suggested procedures* and *activities* by which the goals may be attained; and a *graded bibliography* of materials which may be used in carrying out the suggested procedures.

⁶ J. F. Williams and C. L. Brownell, *The Administration of Health and Physical Education* (Philadelphia: W. B. Saunders Company, 1927), p. 268.

CHAPTER I

Facts About Children's Teeth

First of all, the teacher should know what constitutes and what is involved in a normal mouth condition for a child the age of those she is teaching. Perhaps few teachers realize to what extent the tooth-building process is going on in the mouths of the children. This process is a continuous one and one which should have consideration from before the birth of a child until he is about eighteen years of age. Of especial significance in regard to the growth and development of his teeth and jaws is the period during which a child is in the elementary grades. During this time he is losing many of his baby or foundation teeth and getting some of his permanent teeth.

BABY TEETH. There are several names for the first set of teeth: baby, temporary, milk, deciduous and foundation. Foundation is the newest and most scientific of these names and baby teeth the most commonly used. Even though these first teeth are deciduous, they are very important, not only for themselves and the functions they perform, but also in their rôle of laying the foundation for the permanent teeth.

A child usually has all of his twenty foundation teeth by the time he is two or two and a half years old, and he should keep certain of them until he is from ten to thirteen years of age. The care and preservation of the foundation teeth is of the utmost importance. The child needs them to chew with at a period in his life when the proper mastication and assimilation of food is essential for the growth and development of his body. A clean, healthy condition of the mouth is desirable at all times, whether the teeth are temporary or permanent. The function of the baby teeth as space retainers and guides for the permanent teeth constitutes another valid claim for their proper care. Their remaining in the mouth until their successors are ready to replace them will do much toward insuring straight, even permanent teeth.

SIX-YEAR MOLARS. The first permanent teeth do not replace foundation teeth. They come in immediately behind the temporary teeth and, usually, they come before any of the temporary teeth are lost. Many mothers think that they are baby teeth. Because of this mistake and the mistaken idea that baby teeth do not need careful attention, they are frequently neglected.

Such neglect is a dental tragedy, for these first permanent teeth are the six-year molars, the most important teeth in the mouth. They are called the keystones of the dental arch. They are a determining factor in the positions of the other permanent teeth and, therefore, in the symmetry of the jaws.

PERMANENT TEETH. There are thirty-two permanent teeth. The chart on the following page gives their names and the approximate ages at which they usually appear in the mouth. These permanent teeth grow and develop under the baby teeth. The six-year molars begin to form even before birth. Normally, the permanent teeth, which replace baby teeth, grow and push up under the teeth they are to replace. While this is going on, the roots of the baby teeth resorb so that nothing is left to come out but the crowns.

TOOTH STRUCTURE. The structure of a normal tooth is shown in Figures 1 and 2 on the next page.

DIET AND TEETH. It should always be borne in mind that the enamel, cementum, dentin and pulp are living tissues. Their quality and health depend upon the kinds of building material supplied them through the blood. This, in turn, depends upon the diet of the individual. The enamel, cementum and dentin are composed largely of calcium and phosphorus, the same elements that make good, strong bones. In addition to these minerals, vitamins A, C and D are necessary for the building and maintaining of healthy teeth and gums.

TOOTH DECAY. Thus far, the discussion has dealt with normal teeth and healthy mouth conditions. Unfortunately, it is necessary to take into account the negative side of the picture, for, as was brought out in the Introduction, 84 per cent of the children in our elementary schools have dental defects. By far the most prevalent dental trouble is tooth decay or dental caries. Practically everyone knows, from personal experience, something about this disease.

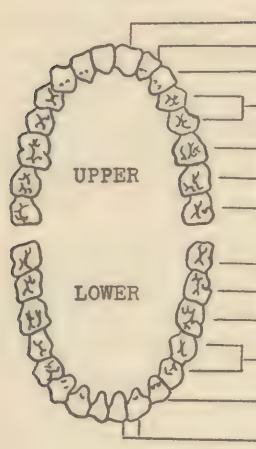
While scientists have not yet agreed as to the causes of dental caries, there are some generally accepted theories as to the contributing factors. Many studies which have been made present strong evidence that decay is produced by an acid, and that this acid is formed by the action of certain bacteria on the food particles, especially sugars and starches, which adhere to the teeth. This acid destroys tooth tissue.

It is believed that there are significant relationships between diet and decay. Many leading dentists emphasize the importance of diet in tooth structure, claiming that certain elements

Permanent Teeth

Names

Ages at which they usually appear



Central Incisor	7-8
Lateral Incisor	8-9
Cuspid	10-12
Bicuspid	9-11
Six Year Molar	5-7
Twelve Year Molar	12-14
Wisdom Tooth	16-25
Wisdom Tooth	16-25
Twelve Year Molar	12-14
Six Year Molar	5-7
Bicuspid	9-11
Cuspid	10-12
Incisors	7-9



Fig. 1

Crown—the part above the gums.

Neck—where the crown and roots join at the gum line.

Roots—beneath the gums.

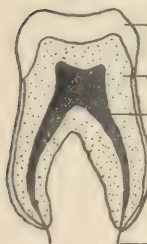


Fig. 2

Enamel—hard, protective covering of crown.

Dentin—substance beneath enamel and cementum.

Pulp—soft, spongy material containing nerves and blood vessels.

Cementum—layer of bonelike material covering root.

Nerve and blood vessels.

in the diet make the teeth resistant to decay. Several groups of dentists stress the environmental factor. They attribute the presence in the mouth of acid-forming bacteria to the excessive consumption of sugar and hold that caries may be controlled by reducing the intake of sugar.

While none of these theories has been conclusively proven, it seems to be the consensus that there is truth in all of them, that decay results from a combination of causes and that the

incidence of decay is influenced both by tooth structure and by the intake of sugar.

Decay attacks first the outside of the tooth. It usually starts on a surface of the tooth that is in contact with another tooth or in a groove in the chewing surface. Any imperfection in the enamel makes a tooth very susceptible to decay. Sometimes there are such flaws or fissures in the enamel of newly erupted teeth. Children may chip or break the enamel of their teeth by cracking nuts or biting very hard substances.

After the enamel has been broken through, decay penetrates rapidly into the dentin and, unless checked, into the pulp of the tooth. When the pulp becomes involved the tooth usually dies and, in all probability, an abscess forms at the end of the roots. When the abscess works through to the surface of the gum it is called a gum boil. Often, however, abscesses cannot be seen, and occasionally no pain indicates their presence. From an abscess, infection enters the blood stream. This is called focal infection and may affect very seriously the health of the individual. Many of the degenerative diseases, that is, diseases of the heart, lungs and kidneys, are caused by focal infection and often these diseases start in childhood. When decay has been allowed to run its course the only remedy is the extraction of the tooth.

LOSS OF TEETH. The premature loss of baby teeth and the loss of permanent teeth may have serious results. If the baby teeth are lost too soon the proper spaces are not retained for the permanent teeth, and, as a result, the permanent teeth may be crooked and crowded. The loss of a permanent tooth allows the other permanent teeth to shift in their positions and thus become crooked.

CHAPTER II

Mouth Health Needs of Children

These facts about teeth, their growth, structure, relation to diet and susceptibility to decay, present very definite implications as to the outstanding needs of children in regard to mouth health.

PROPER DIET. The first and foremost of these is the need of the proper diet for building and maintaining good teeth. The structure of the foundation teeth is largely determined by the health and diet of the mother during pregnancy. The nutritional factor in the maintenance of the foundation teeth and in the structure and preservation of the permanent teeth depends upon the diet of the child. Therefore, the child needs to eat foods that will supply sufficient quantities of calcium, phosphorus and vitamins A, C and D.

The best single source of calcium and phosphorus is milk. For this reason, every child (there are some rare exceptions) should drink a quart of milk a day. Some of the leafy, green vegetables are also good sources of calcium. Sea foods, lean meats, beef liver, eggs and whole grain cereals are rich in phosphorus.

For the calcium to be assimilated and made available for use in the building of teeth, vitamin D is a necessity. Vitamin D is called the sunshine vitamin. It is formed by the action of the ultra-violet rays on the exposed skin. Cod and other fish liver oils contain vitamin D. During the winter months one of these oils is needed in the diet to supplement the sun as a source of vitamin D. Cod liver oil should be regarded as a food and not as a medicine. The vitamin D content of egg yolks makes their inclusion in the diet desirable.

Vitamins A and C are also needed for the growth and health of the teeth and gums. Sufficient quantities of whole milk, other dairy products and cod liver oil furnish quite adequately the vitamin A requirement. Citrus fruits and tomatoes are the best sources of vitamin C. Other fruits and vegetables are rich in the needed minerals and vitamins and should be included in the child's diet.

The food charts in the Appendix give the best and most available sources of calcium, phosphorus and vitamins A, C and D.

The importance of reducing to a minimum the sugar in the child's diet has already been discussed.

It will be seen that the foods which are needed for good general health also meet the requirements of mouth health. Nutritional specialists recommend that a child's daily diet include the following foods:

- One quart of milk.
- One serving of meat or fish.
- One egg.
- One orange or tomato.
- One additional fruit.
- Two or three vegetables, one leafy.
- Whole grain breads and cereals.
- Cod liver oil in winter.

The eating of certain foods is valuable not only for the building and maintaining of healthy tooth and gum tissues, but also for the growth and development of the jaws. Since the jaws develop through use, the child should eat foods which require chewing. Celery, apples, raw cabbage and carrots, toast and bread crusts are examples of coarse foods that will provide the much needed chewing exercise. After a child is four or five years old there should be spaces between his baby teeth, showing that his jaws are growing and expanding to make room for the permanent teeth.

PROPER HABITS. A second great dental health need of children is concerned with the establishment of personal habits of cleanliness and care.

Cleanliness is essential to mouth health. While the claim that a clean tooth never decays cannot be substantiated, cleanliness is certainly an important factor in preventing decay, both by making mouth conditions less favorable to the growth of bacteria and by removing the food particles from the surfaces of the teeth.

The value to a child of forming early in life the habit of brushing his teeth regularly and carefully justifies the expenditure of time and effort on the part of the teacher.

The child should use a small tooth brush with widely spaced, fairly stiff bristles. It is desirable for the child to have two brushes and to use them alternately. Of course, the child should be taught to keep his brush or brushes separate from others and in a clean place.

The only purpose and value of a dentifrice is to aid in cleaning the teeth just as soap helps in keeping the body clean. There are many good pastes and powders on the market which are approved by the Council of Dental Therapeutics of the American Dental Association. A good, inexpensive dentifrice

may be made by mixing baking soda and salt in the proportion of one teaspoonful of salt to ten teaspoonfuls of soda.

The child should brush his teeth at least twice each day, in the morning and at night. The morning brushing should be after breakfast and the evening brushing should be just before going to bed. While brushing the teeth after every meal is highly desirable, it may be impracticable when children eat their lunches at school.

The child should be taught how to brush his teeth. The school dentist will most probably demonstrate an acceptable technique when he does his classroom teaching. The teeth should be brushed away from, rather than toward, the gums. The child can be taught to brush his teeth the way they grow, the upper teeth down and the lower teeth up. The inside surfaces of the teeth and the tops, or chewing surfaces, must not be neglected. The necessity for devoting enough time to the performance of this duty should be stressed.

In considering the dental health needs of children in terms of habit formation, emphasis should be placed upon the importance of their refraining from practices which might result in external injury to the teeth. Children should be taught the dangers of putting pencils and foreign objects in their mouths, of cracking nuts with their teeth, and of biting very hard candies or other substances. Pushing and crowding at the drinking fountains should also be warned against.

DENTAL ATTENTION. The third major dental health need of children is the need for the early detection and correction of defects. Children should visit their dentists two or, preferably, three times a year. The old saying about the stitch in time is especially applicable to dental treatment. If decay is discovered in its early stages, the dentist can remove it and fill the tooth with a minimum both of pain to the child and of permanent injury to the tooth. It has been brought out in the discussion that there are sometimes imperfections in the enamel of newly erupted teeth, and that these teeth are, therefore, very susceptible to decay. If the child visits his dentist regularly and frequently, the dentist will discover and repair these flaws before decay sets in. The child's visits to the dental office will not be painful experiences when he goes often enough for the dentist to be able to practice preventive rather than reparative dentistry.

CHAPTER III

The Aims of Mouth Health Teaching

Evolving from these needs of children are valid aims or objectives for the teaching of mouth health. Expressed in terms of habits, these aims or goals serve as guides to teachers and children.

An example of goals stated in terms of conduct is furnished by the puppet show. Four ways of caring for the teeth are presented and explained in the show. They are reviewed and put into concrete expression by Jack, the hero of the show, in his, between act, curtain talks to the children. Finally, he incorporates them in the "Four Point Yell" and leads the children in shouting:

"Eat the right foods.
Brush your teeth twice a day.
Exercise your teeth.
See your dentist three times a year."

Restating these admonitions in the form of specific modes of behavior and adding to them, the following are suggested as the primary aims or goals of mouth health education:

1. Eating foods that will build good teeth.
2. Eating foods that will give chewing exercise.
3. Brushing the teeth twice a day.
4. Being careful not to do things that might break or injure the teeth.
5. Visiting the dentist two or three times a year.

Certain knowledge is implied in these goals and is, of course, necessary to their attainment and intelligent pursuit. This knowledge might be considered the curriculum content of mouth health education. The minimum essentials that children need to know may be very simply stated as follows:

Teeth are built from the foods we eat.

Milk is the most important tooth building food.

Four glasses, or a quart, of milk should be taken daily.

Other foods which help to build good teeth are green vegetables, fruits, whole grain breads and cereals, eggs, fish and meat.

At least two vegetables, one a green, leafy vegetable, should be eaten daily.

One or two raw fruits, one a citrus fruit, should be eaten daily.

Sweets are not good for teeth and should be taken only at the end of meals.

The mouth and jaws need to grow to have room for the permanent teeth to be straight and even.

Chewing coarse foods will exercise the jaws and help them to grow.

Celery, apples, raw cabbage and carrots, toast and bread crusts are some of the foods that require chewing.

Keeping the teeth clean will help to prevent decay.

Brushing the teeth is the best way to keep them clean.

Every one should have his own tooth brush and should keep it in a clean place.

The teeth should be brushed at least twice a day.

The teeth should be brushed up and down, away from the gums, the way they grow.

Putting things, such as pencils, in the mouth, cracking nuts with the teeth, biting very hard candies or other things may break the teeth or injure the enamel.

Pushing and crowding at the drinking fountain may result in breaking one's own or one's classmates' teeth.

There are twenty baby teeth.

The baby teeth should be well cared for.

The teeth that come just behind the baby teeth, when a child is about six years old, are the six-year molars.

The six-year molars are permanent teeth and should have especially good care.

There are thirty-two permanent teeth.

The dentist will help children to take care of their teeth.

The dentist should be visited two or three times a year so that he can examine the teeth and make the necessary corrections.

In addition to these facts, the children in the fifth, sixth and seventh grades should have a knowledge of tooth structure, the nature of tooth decay, the elements in diet that help to build and maintain healthy teeth and the relation of mouth health to the health of the body.

In considering the goals of mouth health teaching it must be taken into account that there are conditions and situations, over which the child has no control, which may prevent his being able to put into practice the knowledge that he gains. It will readily be seen that this is true in the matter of diet. The child is limited in his selection of foods to those that are provided in his home. Often his diet falls far short of being adequate. This may be due to economic conditions, to ignorance or to indifference. There are many cases, however, where the child's failure to eat the right foods is to be attributed solely to his own likes and dislikes, and, often, these likes and dislikes can be greatly influenced by class discussions and attitudes. Not only can the attitudes of the children themselves be affected by the instruction as to the importance of eating the right foods, but through them, the ignorance and indifference of the parents may be attacked. The possibility of educating parents through their own children is a cause for great optimism and hope among educators and public health workers.

It is possible for most children to practice the proper habits of mouth hygiene, but, here again, the home environment is very definitely an influencing factor. Children should not always be held responsible for failure to brush their teeth.

In the matter of dental attention, the economic status of the home is again operative. The school dentists treat the children in the under-privileged group, but, as has been pointed out, the school dentists get to each school and, therefore, to each child only once in two years. While this is inadequate, it helps these children, who, otherwise, would never go into a dental office, to have better teeth and also to understand and appreciate the services rendered by a dentist. This prevents their being at too great a disadvantage when the health teaching and discussions are about the importance of visiting the dentist.



BUILDING GOOD TEETH BY EATING THE RIGHT FOODS.



Top: BRUSHING HER TEETH BEFORE SHE GOES TO BED.

Bottom: MAKING ONE OF HER REGULAR VISITS TO HER FRIEND, THE DENTIST.

CHAPTER IV

Suggested Procedures and Activities For Teaching Mouth Health

In regard to relating the activities to the goals, Gordon Melvin says: "The teacher, during the process of teaching, is concerned with three factors: the curriculum goal, the child, and the activity by which he attains that goal."¹ The curriculum goals have been formulated with reference to child needs and have been expressed in terms of child aims. The child must also be the chief consideration in planning the activities through which the goals are to be attained. This is well expressed by Rugg and Shumaker in the statement: "The new education has reoriented educational thinking about its true center—the child."²

Growing out of this new outlook are certain basic principles of education. Some of the outstanding ones which should be used as guides in the selection and execution of mouth health activities might be stated as follows:

1. The activity should be in keeping with the experiences of children and should be related to life.
2. The activity should be motivated and guided by the interests of children.
3. The activity should provide for doing something and actually using what is learned.
4. The activity should lead to further activity and to worthwhile purposes.

One of the basic policies which Miss Ruth Grout sets forth in her *Handbook of Health Education* is that: "A school health education program should grow out of classroom situations and should come from the teachers and pupils themselves."³

There are many classroom situations in all of the grades of the elementary schools which provide excellent opportunities for teaching mouth health. These may be: routine procedures; incidental happenings and impromptu situations; experiences of the group which create sufficient interest to motivate intensive study and special activities dealing with some phase of mouth health; and large units of experience or centers of inter-

¹ A. Gordon Melvin, *Activated Curriculum: A Method and a Model for Class Teachers and Curriculum Committees* (New York: The John Day Company, 1939), p. 179.

² Harold Rugg and Ann Shumaker, *The Child-Centered School: An Appraisal of the New Education* (Yonkers-on-Hudson: World Book Company, 1928), p. 325.

³ Ruth E. Grout, *Handbook of Health Education: A Guide for Teachers in Rural Schools* (Garden City: Doubleday, Doran and Company, Inc., 1936), p. 3.

est which provide for effective mouth health integration. The suggestions as to activities which may be used for attaining the mouth health education goals, through these classroom situations, will be made for the elementary grades in the following groups: first and second; third and fourth; and fifth, sixth and seventh.

ROUTINE PROCEDURES

The routine procedures most directly related to mouth health are the morning inspection, or check-up on the observance of health habits, and the school lunch. While their connections with mouth health are rather obvious and potentially valuable, the proper supervision of these routine procedures constitutes one of the most difficult of the teachers' tasks. Their value may be positive, indifferent or negative: positive in that they provide for the actual practice of desirable habits and the repetition of the habits in true life situations; indifferent in that they may degenerate into mere routine with no meaning; and negative in that they involve possible embarrassment to children. The success of these activities depends largely upon the diplomacy and ingenuity of the teachers.

THE MORNING INSPECTION. Especially is this true of the morning inspection. Of course, the mouth health habit involved, that of brushing the teeth before coming to school, is only one of the several habits usually considered. It is practically impossible to keep any kind of morning inspection from becoming very monotonous and perfunctory. To prevent this, it might be advisable not to attempt to make it a daily practice throughout the year. Better results might be secured from having some form of morning inspection at intervals during the year and, at these times, placing especial emphasis on it. Certainly, there should be variety in the procedures used in carrying out the activity.

There should never be any competition between children nor any awarding of merits, as these are practices which might cause embarrassment or untruthfulness. When the observance of health habits is recorded on class wall-charts, every effort should be made to direct each child's interest to his own individual successes or failures, for, in addition to the poor who may not be able, financially, to purchase tooth brushes, we also have with us those who bolster up their own self-esteem by noting and remarking on the shortcomings of others. The only form of competition should be individual, that is, for each child to try to better his own preceding score.

It is equally true that the morning inspection offers splendid possibilities for constructive mouth health education. In serving as a reminder of and objective for the performance of certain desirable acts, it helps these acts to become habitual. It also helps children to realize that these practices have an important relationship to their daily lives. It is hoped that some of the following ideas will be suggestive and helpful to teachers in planning morning inspections for their grades.

First and Second Grades. In the first and second grades the morning inspection should be informal. During the first weeks of school, in both of these grades, time should be devoted to building up an understanding of and desirable attitudes toward the things children should do each morning before they go to school. There are several stories about getting ready for school listed in the Graded Bibliography but they should be saved for the time when the children can read them. Before the children have learned to read from books, the class stories and charts can well be based on the subject of getting ready for school. For instance, a very nice little story could be written about some child in the grade who brushed his or her teeth each morning before coming to school.

As soon as the children understand the things they should do each morning, some method of checking the observance of these habits might be used for a while. For a week or two, the teacher might observe each child's appearance when he arrives at school and commend him for his good habits or, if necessary, urge him to do better.

The group might make up a very simple, individual form on which could be checked one day's observance of health habits. Drawings could be used to illustrate or represent the health habits. These forms could be hectographed or mimeographed. Upon arriving at school in the morning, each child could secure one of the forms, mark it and give it to the teacher. The teacher could keep these sheets for a certain length of time. Then the sheets could be returned to the children, and each child could compare his own records to see if he had improved in practicing the health habits.

While the subject of health does not lend itself to music, there are a few primary grade songs that are appropriate. Two such songs are "Ann's Teeth" and "Before School" in *The Music Hour in the Kindergarten and First Grade* by McConathy and others. Instead of the morning inspection, the real object of which is to remind, one of these songs might be sung each morning for a few weeks. "The Mulberry Bush" has long been a standby for this purpose.

Third and Fourth Grades. In the third and fourth grades the children should formulate their own health rules and systems of checking. Perhaps some simple individual record form might be used at timely intervals during the year, the teacher keeping them when they are not in use. A plan of this type is described in Miss Grout's *Handbook of Health Education*. It was written up by one of the pupils as follows:

We decided that each one would try to improve on some certain point and that he would check himself each day for a month. If at the end of a month he had improved satisfactorily, he would select another thing to improve on. Some of the things chosen were: to sit and stand correctly, to brush teeth twice a day and to eat foods our mothers prepared for us.

This record is to be kept on a card and filed in a cabinet. Each day the secretary will pass out the cards and later collect and file them.⁴

To vary this form of checking-up each child might keep his record at home and report on his progress from time to time.

Another method which might be used for letting the children check their own habits is a True-False Test, the teacher reading aloud a sentence about each habit, as, "I brushed my teeth after breakfast this morning," and the children writing "yes" or "no."

Fifth, Sixth and Seventh Grades. In the fifth, sixth and seventh grades the routine procedure of the morning inspection should not be necessary. The children's pride in their personal appearance and their desire for social approval should suffice as incentives for practicing habits of personal cleanliness. It is also to be hoped that by the time children have reached the fifth grade the desired practices will be well established habits. It would injure the children's dignity and sense of personal responsibility if they were required to report each day on having brushed their teeth.

However, in these grades the children should practice health habits intelligently and they should know the underlying scientific and physiological reasons for practicing them. This might be accomplished by having the children give a series of talks about the habits or by having class discussions of each habit.

While no formal inspection is advocated for these upper grades, the teachers should make their own observations and try to help individual children make needed improvements.

THE SCHOOL LUNCH. The school lunch is extremely important in its relationship to the school health program. It is the

⁴ Ruth E. Grout, *Handbook of Health Education: A Guide for Teachers in Rural Schools* (Garden City: Doubleday, Doran and Company, Inc., 1936), p. 55.

ideal situation for actually putting into practice the knowledge gained through the classroom discussions and activities. And indeed, for the sake of consistency, it is essential that the knowledge and actual practice be in accord. It is recognized that the supervision of the school lunch presents many difficulties, but these are over-balanced by the opportunities it offers for helping children to acquire, by actual experience, habits of selecting and eating foods that are good for them.

As eating the right foods is vitally connected with mouth health, the school lunch is a legitimate part of the mouth health education program. There are many ways by which the school lunch may be made the means of attaining the mouth health education goal, eating foods that will build good teeth.

Of course there is great diversity in practice in the matter of the lunch at school. In most schools some children bring lunches from home and others buy lunches from the school cafeteria. In both cases efforts should be made to guide the children in their selection of foods.

However, care should be taken to save children from embarrassing situations. Class discussions of healthful lunches, which might be brought from home or selected from the cafeteria, should be conducted in a general way. The economic status and the available foods of particular localities should be taken into account so that suggestions of menus will be practical. For instance, in many homes, where oranges cannot be bought, an acceptable substitute in the form of home-canned tomatoes and tomato juice is available.

The influencing of food habits will necessarily be a slow process. Every effort should be made, in each of the elementary grades, to provide as many situations as possible through which the children will not only acquire knowledge as to the foods they should eat, but will also have the actual experience of eating these foods.

First and Second Grades. In some schools, the first and second grades have a mid-morning lunch. Usually, the children bring milk from home or buy it from the school cafeteria for this lunch. The following account tells how this is conducted in the Parker School District in Greenville, South Carolina.

The health of the child is emphasized. In many schools the children have a morning lunch. Milk is served to those who can not get it at home. Milk wagons similar to tea carts have been built for a few rooms. The bottles of milk and napkins are kept in this wagon until time for lunch.⁵

⁵ James S. Tippet and others, *Schools for a Growing Democracy* (New York: Ginn and Company, 1936), p. 42.

When it is realized that this is done in a mill district, it would seem that similar arrangements could be made in most schools. It certainly cannot be improved upon as a method of partially attaining one of the most important goals of mouth health education.

When the first and second grade children remain at school through the lunch period, the teacher should help them as much as possible in the selection of lunches and in their eating habits. The ideal situation is for the lunch to be one of the normal group activities in which the teacher and children engage. Whether the children bring lunch from home or buy it in the cafeteria, arrangements can be made for them to sit together in the cafeteria and, thus, make it a social occasion. If it is not practicable to do this every day, it can certainly be done every now and then. A few times during the year the teacher might get some of the mothers to serve special lunches to the group, so that all of the children will have the same meal. Of course, provisions should be made throughout the year to furnish or supplement the lunches of under-privileged children. All of the children should have milk with their lunches.

To help the children who buy their lunches at school to choose wisely, it might be advisable for the group to go over the cafeteria menu each morning and select a few good lunch combinations. The group can also plan some good lunches that can be brought from home.

Third and Fourth Grades. The school lunch practices instituted in the first and second grades should be continued in the third and fourth. The third and fourth grade children should be encouraged to assume more responsibility and initiative in making their lunches conform to their knowledge about foods. For instance, the children can take turns in getting the menu from the cafeteria and writing it on the blackboard, or posting it on the bulletin board, so that it will be available for class discussion or for individual study and selection. A few picnic lunches during the year, where all of the children bring lunches from home or where the children plan and prepare a picnic lunch for the whole group, will provide practical situations for learning what constitutes a healthful lunch.

In the health book, *Let's Grow*, there is an account of the way one third grade learned to select balanced lunches by having a play cafeteria in their classroom. This story, which is listed in the Graded Bibliography, can be read to good advantage by either a third or fourth grade.

Fifth, Sixth and Seventh Grades. The children in the fifth, sixth and seventh grades will enjoy eating lunch in smaller groups and at small tables. They will also want to have freedom in making their own menu selections. They should have sufficient knowledge to be able to select wholesome lunches. However, they will still need some form of guidance. This might be effectively provided by letting them plan good lunches for the benefit of the smaller children. They could do this by selecting several good lunch combinations each day and writing them on the blackboard in the cafeteria. They might even make simple posters. Perhaps, for a while, a grade could coöperate with the cafeteria and plan a special plate lunch each day. Several times during the year, the children in each of these grades can plan and prepare model lunches for the grade group. In all of these ways the children will be influenced in their own selections.

In *Helpful Living* by Brownell, Ireland and Giles, the selection, "Eating at School," gives good suggestions for making the school lunch contribute to the school health program. This story can be used in the fifth, sixth or seventh grade and is listed in the Graded Bibliography.

INCIDENTAL HAPPENINGS

Throughout the year there will be unusual occurrences which will direct the attention of teachers and children to mouth health and which will create enough interest to call for discussion and study of some phase of mouth health. In the very nature of the case these happenings cannot be predicted or planned for. Much depends on the teacher's alertness to recognize their possibilities. The Graded Bibliography will help teachers in locating quickly stories or reading material appropriate to these unforeseen situations. Further discussions of these incidental happenings will be limited to the first and second grades, for it is in these grades that they are most likely to occur, and, also, because the program and teaching methods in these grades lend themselves to such incidental teaching procedures.

First and Second Grades. Incidental happenings and impromptu situations are indeed plentiful in the first and second grades, where the children are such individualists and are endowed with spontaneity. There will be many times when the attention of the group will center around the hero or heroine who has just had a loose tooth to come out. This is an event that should receive due recognition. It is also an event that intro-

duces very naturally and effectively a discussion of the importance of keeping the baby teeth until the time for the permanent teeth to come. The story, "The Loose Tooth," in *Health Stories*, Book One, listed in the Graded Bibliography, might be read to very good effect. Of course, this story cannot be read over every loose tooth but it can be referred to several times. Another way of observing such an event is for the group to write a short story about it.

Some child may announce the arrival of a new tooth back of his other teeth. This may be treated in the same way as was the loose or lost tooth.

During the year some of the children will probably go to their dentists. They might be allowed to tell the class about these visits. The teacher, however, should censor such reports and should, if possible, select cases where the experiences were pleasant. A child with dramatic instincts might, by drawing on his imagination and his recollection of the grown folks' stories of their dental experiences, give an account that would have very unfortunate results.

SPECIAL MOUTH HEALTH UNITS

The outstanding group experiences which should create sufficient interest to motivate and justify special mouth health units are the visits of the school dentist and the puppet show. Both of these are real events in the school lives of the children.

It is truly a novel experience for most elementary grade groups to have a masculine teacher, a "Doctor" at that! Of course, the school dentist is putting forth his best efforts to make his subject interesting to the children.

In addition to teaching, the dentist inspects the mouths of all the children. While he is doing this he makes friends with the children and makes them feel that he is personally concerned with the conditions of their mouths. The children for whom the dentist makes the necessary corrections, in telling of their experiences, stimulate the interest of the group in mouth health. Seeing the dentist in and about the school building for a week, or several weeks, serves to keep the interest alive. This is the opportune time for the teacher to plan some special mouth health project or activity.

The puppet show is very popular with the children in all the elementary grades. It not only entertains them, but it makes them enthusiastic admirers of Jack, the hero, and, therefore, advocates of good teeth. It furnishes an ideal approach to an

activity based on the four rules of mouth health and, at the same time, implants in the children's minds ideas for carrying out such activities. Of course, the types of activities will vary greatly for the different grade groups.

First and Second Grades. The school dentist will have with him some graded educational material with which the teacher may initiate the activity. Copies of two of these sheets, suitable for use in the first and second grades, are included in the Appendix. The following suggestions are based on the use that has been made of this material by teachers and children.

The sheet about Nancy and her teeth can be made into a very attractive little booklet. Before giving the sheets to the children, it might be well for the teacher to review with the children the things that the school dentist told them to do in order to have good teeth. During this discussion, the teacher can write on the blackboard some of the words that the children will need to be able to recognize in order to read the sheet. Some of these words are: teeth, vegetables, fruit, brushes and sunshine. The teacher might introduce Nancy by saying that they are going to read about a little girl, named Nancy, who did the things that were good for her teeth. Then she can give the sheets to the children and let them look at and talk about the pictures. Each part should be read and discussed and the question at the end answered. After the sheet has been read, the teacher can lead the discussion so that the children will suggest making little booklets. They will decide to color the pictures, cut them apart on the dotted lines and make covers for the booklets. After the books are made, the children will enjoy reading through them and will want to take them home to read to their mothers and fathers.

The making of the booklets about Nancy and her teeth might lead to further activity along this line, such as the making of a class book to tell about the ways of taking care of the teeth.

Another approach to making a class booklet might be made by discussing ways of remembering the things the school dentist told the group, or the things that the dentist in the puppet show told Jack and his sister, Judy.

Making such a booklet would involve several types of activities. Among them would be: group discussions for planning and evaluating, reading for information, drawing and writing. All of these would contribute to the accomplishments of the specific objective of remembering the things children should do to have good teeth.

It is believed that one of the outcomes of such a unit would be that the children would make progress in the practice of the desirable habits, and thus, in the attainment of the goals of mouth health education. The book would be a permanent library acquisition. It could be shown to other grade groups and, in this way, it would stimulate their interest in mouth health.

Some other activities which might grow out of the school dentist's visit are:

Collecting and displaying, on the library table or on a special shelf, all of the books or stories about teeth.

Drawing and painting pictures to illustrate specific things that children can do to have good teeth.

Arranging, in the school cafeteria, a display of right foods for teeth.

Writing letters to the dentist, thanking him for telling them how to take care of their teeth and reiterating, in these letters, the outstanding things he told them.

Writing a class account of the dentist's visit and enumerating the rules he gave them. The teacher might print this on charts for reading material.

Some of the activities which might follow the puppet show are:

Giving dramatizations, or little plays, based on the rules of caring for the teeth.

Writing letters to Jack, the hero of the puppet show.

Repeating the "Four Point Yell" and making pictures or posters to illustrate it.

Planting a vegetable garden.

Third and Fourth Grades. In a questionnaire, submitted to and answered by the state school dentists, the dominant opinion was that the third and fourth grade children are more receptive to the teaching of mouth health than are the children in any of the other grades. If this opinion be true, it is important that the interest and aptitude of the children in these grades be used to the very best advantage. These are significant years, not only because of the children's readiness to learn, but also because of the importance of their caring for their teeth at a time when it will yield lasting results. Neglect during these years will cause irreparable damage. For these reasons, it would seem justifiable to intensify the efforts to help children in making real progress toward the attainment of the goals and to promote special mouth health units in these grades.

A very specialized activity, which seems to be indicated for these grades, is that of going to the dentist. Many accounts of

children's visits to dental offices are given in the third and fourth grade health books. The school dentist's visit might initiate a group project of having each member to see his or her dentist. The teacher will have to judge of the advisability of such a plan. If the school dentist is able to treat all of the children whose parents cannot pay for dental attention, there should be no objection to letting the interest of the children take this turn.

One of the stories in the health material that the school dentist will have tells of a little boy's visit to his dentist. A copy of this story, "Bobby and Zip," is in the Appendix. The reading of this story, or one of those listed in the Graded Bibliography, might easily call forth the suggestion that each child in the group go to see his or her own dentist. This will be further stimulated by the cards which the school dentist, after making his inspections, will mail to the parents of children needing dental attention.

It may be best, however, for the activity to be of a more general nature. A very effective unit might be worked out along the lines of coöperating with the school dentist in his mouth health teaching. While the dentist is in the school, or just after he leaves, one of these grade groups might secure the permission of a grocer to let them arrange an exhibit of foods that will build good teeth and with a druggist to let them arrange a display of tooth brushes and dentifrices in their store windows. In carrying out such a project the class will of necessity engage in a variety of worthwhile activities, such as, reading, writing, drawing, conducting group discussions, and making pleasing arrangements of the articles to be displayed. Social values will be derived from the relations of the children with the school dentist and the merchants, and from their coöperation among themselves.

In connection with the puppet show, an activity which might be carried on throughout the year is the making of a mouth health picture map. It is not necessary to wait for the puppet show to be in the school to start this. If the group has ever seen the puppet show they know and like Little Jack. For three years Jack has been writing a *Travelogue*. This is issued every two weeks and is sent to the schools to be incorporated in their mimeographed newspapers or magazines. If the school has no such publication, copies of the *Travelogue* are sent for posting on the classroom bulletin boards. In telling about his travels over the State, Jack combines history and geography with mouth health. The first step in initiating this activity would be to make, or secure, a large map of North Carolina showing the one hun-

dred counties. Then, as the *Travelogues* are received, appropriate pictures may be drawn or pasted in the counties. A copy of *Jack's Travelogue* for January 12, 1940, is included in the Appendix. From a perusal of this sheet, it will be found that it tells of Jack's visits to Orange and Columbus counties. His mouth health references were to the necessity of lime or calcium for building good teeth, as suggested by the story of how the lime was secured for the Old East building at Chapel Hill, and to the raising of vegetables in Columbus County. While the pictures will not necessarily be typical of the counties, they will illustrate the mouth health habits that Jack and the puppet show are trying to teach the children all over the State.

Other mouth health activities which will aid the third and fourth grade children in attaining the mouth health education goals are:

Making a mouth health book.

Making and presenting a puppet show.

Conducting an experiment with white rats.

Making a study of the history of tooth brushes.

Giving programs for other grades.

Having a mouth health fair.

Planting and caring for a vegetable garden.

Fifth, Sixth and Seventh Grades. In these upper, elementary grades the special mouth health activities should be of a different character from those recommended for the first four grades. In the fifth, sixth and seventh grades, the activities should provide for giving the children a knowledge and an understanding of the scientific facts underlying the care of the teeth. Children of this age level are interested in knowing the reasons and causes for the things that they do. They also appreciate recognition of their ability to grasp scientific information.

For these reasons, a very straightforward approach to units dealing directly with mouth health problems is advocated. The visit and lecture of the school dentist should stimulate genuine interest in mouth health and should suggest problems for study. Some of the problems on which a unit of study might be based are: the structure and composition of the teeth; the causes and effects of tooth decay; the prevention of tooth decay; the relation of diet to tooth structure; and the relation of mouth health to general health. The content and arrangement of the material in the health texts for these grades will be found to be very helpful in planning and carrying on this type of study unit.

A good culmination for such a unit of study would be the presentation of some kind of program for another grade group

of the same level or for a group of parents. If a projector and materials for making glass slides should be available, the different topics could be very effectively illustrated.

As an outgrowth of such a unit, the children might want to apply their knowledge and understanding of the importance of mouth health to helping the children in the lower grades attain the desired goals. Some activities through which they could make valuable contributions to the school mouth health program are:

Writing a mouth health column for the school paper.

Giving a mouth health puppet show.

Giving a mouth health moving picture show.

Having a committee for the purpose of making suggestions pertaining to and helping to supervise mouth health practices, such as, the proper use of the drinking fountain.

Giving radio programs where there is a school radio system.

Arranging exhibits and making posters which will keep before the children the different phases of mouth health.

LARGE UNITS OF STUDY OR CENTERS OF INTEREST

Mouth health may be very effectively taught in the elementary grades in connection with large units of study or centers of interest. That this is true may be well understood from the following definitions of units, activities or centers of interest.

A unit of work includes all of the things children do when working on one particular problem.⁶

An activity is any large learning situation brought about by strong purposes of a child or a group of children to achieve a worthy end desirable to themselves, which, like those situations in life through which we are most truly educated, draws upon a large number of experiences and many fields of knowledge.⁷

A center of interest brings together in a related way, many different kinds of experiences and many fields of knowledge. It is a purposeful endeavor which gives children the opportunity to engage in worthwhile and satisfying experiences. It gives meaning to experiences and information; it gives purpose to the use of skills; it gives practice in the growth of attitudes and habits.⁸

The following statement from *A Handbook for Teachers of the Parker School District* presents the point of view that the

⁶ Margaret Gustin and Margaret L. Hayes. *Activities in the Public Schools* (Chapel Hill: The University Press, 1934), p. 107.

⁷ *Teachers' Guide to Child Development: Manual for Kindergarten and Primary Teachers*. California Curriculum Commission. (Sacramento: California State Printing Office, 1930), p. 17.

⁸ *A Handbook for Teachers of the Parker School District* (Greenville, South Carolina, 1938), p. 10.

best health teaching is accomplished through this type of curriculum organization.

Almost all centers of interest deal at some time with health. Then it is that interest in the particular phase of health is greatest, and the health teaching is most valuable.⁹

The present trend in the activity program is toward the development of a more or less standardized elementary school curriculum of integrated units. There are now some rather generally accepted areas or realms to which are related the activities for each of the elementary grades. However, the uniformity ends with the realm, for there is great diversity in the activities used in developing any one of these units.

Some of the centers of interest most frequently used in the different grades will be listed and examples given of possible mouth health integrations.

First and Second Grades. Units most frequently used in the first and second grades are concerned with:

Home and Family Life.

Community Life.

The Farm.

Pets.

Foods.

Transportation.

Units centering around home life predominate in the first grade and those dealing with the neighborhood and community in the second grade. There are many opportunities for teaching mouth health in a unit dealing with home life. In the building and furnishing of a home, either for the children themselves or for a family of dolls, situations will arise which can be used to good advantage. For instance, in arranging the bathroom and making provisions for the tooth brushes of each member of the family, the following generalizations should be arrived at in a real life setting:

1. The habit of brushing the teeth is a good one.
2. Each member of the family should have his or her own tooth brush and should have a separate holder for it.

Third and Fourth Grades. The generally accepted activities for the third and fourth grades are those related to:

Indians.

Eskimos.

⁹ *Ibid.*, p. 165.

Child Life of Other Lands:

Holland.

Japan.

Switzerland.

The Post Office.

Foods.

Clothing.

Housing.

In studying child life of other lands the group will naturally be interested in the foods eaten by the children in these other countries. For example, they will learn that there is an abundance of milk and cheese in the diet of the Dutch children. From this may be drawn the conclusion that milk is good for all children. Then, in a discussion of why milk is good for children, the fact that it helps to build strong bones and teeth may be emphasized.

Fifth, Sixth, and Seventh Grades. The unit of study areas are not so well defined for the fifth, sixth and seventh grades as for the first four grades. A study of typical units for these upper grades seems to indicate that the emphasis in the fifth grade on discoveries and inventions leads to an emphasis on economic life and adjustments in the sixth grade and to an emphasis on social relationships in the seventh grade. Some of the activities through which these relationships are approached are:

Transportation.

Communication.

Records and Printing.

Early Explorations.

Invention and Discovery.

Colonial Life.

Occupations.

Effects of Machines.

Industrial Life.

Apprentice System.

Capital and Labor.

Social Relationships.

Coöperative Living.

Democracy.

The work and contributions of scientists would be studied in several of these units. Prominent among the scientists is Roentgen who discovered the X-ray. The X-ray is now an indis-

pensable aid in the practice of dentistry. In learning how the X-ray is used, children will learn the importance of the early detection and correction of dental defects. Good explanations of the X-ray in relation to mouth health will be found in Dr. Ferguson's *A Child's Book of Teeth* and in the unit on "Good Teeth" in the book, *Building Good Health*, by Andress, Goldberger and Hallock. Both of these books will be found listed in the Graded Bibliography.



THE SCHOOL LUNCH IS A PART OF THE MOUTH HEALTH EDUCATION PROGRAM.



*Top: SHE VISITS HER DENTIST THREE TIMES A YEAR.
Bottom: LEARNING HOW TO USE THEIR NEW BRUSHES.*



*Top: A SCENE FROM THE PUPPET SHOW.
Bottom: MAILING A LETTER TO "LITTLE JACK."*



Top: THESE WHITE RATS DEMONSTRATED THE RELATION OF DIET TO HEALTH AND GROWTH.
Bottom: A PROJECT THAT WILL PAY DIVIDENDS IN HEALTH.

CHAPTER V

A Graded, Selected and Annotated Bibliography of Mouth Health Materials

FIRST GRADE

MOUTH HEALTH

HEALTH BOOKS:

Andress, Goldberger, Dolch. SPICK AND SPAN. Safe and Healthy Living Series. New York: Ginn and Co., 1939.

The material in this book is effectively presented in units dealing with various phases of health. The health habits are discussed and summarized as the things that "happy, healthy children" do. Many of the stories are told by different children in the first grade group. The illustrations are very attractive.

Unit VI. "Good Teeth." pp. 90-103.

"Use Your Own Toothbrush." p. 91.

"Clean Teeth and Toothbrushes." pp. 92-93.

"Foods That Make Teeth Grow." p. 94.

This is a group of stories told by different children in the grade.

"Grown-Up." pp. 95-97.

In this story Dick is talking with his mother and father about being big when he is grown. They decide that he will be, as he eats foods that will help him to grow big and strong. His mother says he has four things that are grown-up right now. They are four new teeth, his six-year molars.

"Healthy Teeth." p. 98.

Fred tells how the dentist helps children to have good teeth.

"Norma's Story." pp. 99-102.

Norma told the children in the class about having toothache every time she ate ice cream. However, after her visit to the dentist, she told a different story.

"Happy, Healthy Children Have Good Teeth." p. 103.

The things the happy, healthy children do to have good teeth are listed as follows:

They brush their teeth twice a day.

They brush their teeth the way they grow.

They brush their teeth on the inside and on the outside.

They use their own toothbrushes.

They keep their toothbrushes clean.

They eat the foods that make teeth grow.

They go to see their dentist twice a year.

Charters, Smiley, Strang. FROM MORNING TILL NIGHT. Health and Growth Series. New York: The Macmillan Co., 1937.

In reading this book the children will go with Jane and Jerry through a typical day, morning, noon, afternoon and night. Stories told to Jane and Jerry and their experiences at school reinforce the health teachings brought out in the activities of the two children. Tests, checks and pictures, indexed as "Games to Play," serve to formulate, rather definitely, desirable health habits and attitudes and to provide repetition and application which will help other children to establish these habits.

"Good Morning." pp. 5-11.

Jane and Jerry brush their teeth before they dress.

"Good Night." pp. 138-141.

Jane and Jerry brush their teeth before going to bed.

"Let's Guess." pp. 122-128.

Jane counts up that she has had four glasses of milk during the day, and father tells her that milk helps to make strong teeth.

Towse and Gray. HEALTH STORIES. Book One. Curriculum Foundation Series. New York: Scott, Foresman and Co., 1933.

HEALTH STORIES presents elementary health principles in simple, interesting stories based on life situations. The authors state that the aim is to develop health attitudes, habits and knowledge appropriate for the grade level. The book can be read without difficulty by an average first grade group during the second term.

"The Loose Tooth." "How to Have Good Teeth." pp. 31-36.

Joe's loose tooth gives the school nurse an opportunity to teach the class how to take care of their teeth. These teachings are illustrated and summed up in the pictures and questions at the end of the story.

PRIMERS:

Buckley and others. HAPPY TIMES. The Road to Safety Series. New York: American Book Co., 1938.

"At School." pp. 7-25.

In this story Betty, George and Paul waited their turns at the drinking fountain, but Jack would not wait for his turn. The children would not play with Jack so he decided that he would stop pushing and wait for his turn, too. There are good pictures of children using the drinking fountain properly. No reasons are given as to why children should not push. The story could lead to a discussion in which the dangers of breaking and injuring teeth could be included.

Grady, Klapper, Gifford. PETS AND PLAY TIMES. Primer. Childhood Readers. New York: Charles Scribner's Sons, 1932.

"In the Morning." pp. 7-16.

The attractive picture, in colors, of Mary and Tony brushing their teeth will help children to accept this as one of their regular morning health habits.

Hanna, Anderson and Gray. PETER'S FAMILY. Curriculum Foundation Series. Atlanta: Scott, Foresman and Company, 1935.

"The Work That Fathers Do." pp. 44-45.

In this group of pictures, showing people working at different occupations, there is a picture of a dentist. The patient in the dentist's chair is a little boy.

Hardy, Marjorie. SALLY AND BILLY. Primer. Chicago: Wheeler Publishing Co., 1928.

"Morning." pp. 1-8.

"Evening." pp. 35-48.

In these two picture stories, Sally brushes her teeth before breakfast and before she goes to bed.

READERS:

Dopp, Pitts, Garrison. BUSY DAYS WITH LITTLE FRIENDS. First Reader. New York: Rand McNally, 1935.

"Little Baby Wants a Tooth." pp. 83-96.

This is a story about baby's first tooth.

McLester, Amelia. IN AND OUT OF SCHOOL. A First Reader. Nashville: The Augsburg Publishing Co., 1936.

"Time for Bed." pp. 190-191.

Mother reminds the children with a nice little rhyme to brush their teeth before they go to bed.

Ringer and Downie. CITY AND COUNTRY. Book One. Citizenship Readers. Philadelphia: J. B. Lippincott Co., 1930.

"Getting Ready for School." pp. 11-13.

Brushing teeth is among the things to be done in getting ready for school.

"A Game to Play." p. 47.

This game is really a review and check of health habits and, of course, the habit of brushing the teeth is included.

FOOD

HEALTH BOOKS:

Andress, Goldberger, Dolch. SPICK AND SPAN. Safe and Healthy Living Series. New York: Ginn and Co., 1939.

A general description of this book is given under MOUTH HEALTH.

Unit V. "Good Things to Eat and Drink." pp. 68-89.

"A Healthy House." pp. 69-72.

The grocer who brought vegetables, fruits and whole wheat bread to Bob's house called it a healthy house.

"Sonya." "The Story of Milk." "Good Foods." "Sonya's Scrapbook." pp. 73-85.

In this group of stories the children and their teacher discuss good foods. They decide to make a scrapbook for Sonya, a little girl who has come from another country and cannot understand what they are talking about, so that she, too, will know about the right foods to eat.

"Another Health Food." pp. 86-88.

This health food is cod liver oil.

"Happy, Healthy Children Eat and Drink Good Things." p. 89.

This is a summary and list of good foods.

Charters, Smiley, Strang. FROM MORNING TILL NIGHT. Health and Growth Series. New York: The Macmillan Co., 1937.

A description of this book is given under MOUTH HEALTH.

"A Picture." and "Two Little Bears." pp. 12-19.

The picture and story of the bears reminds Jane to drink a glass of water before breakfast.

"Breakfast." pp. 23-26.

Jane and Jerry enjoy their breakfasts of baked apples, oatmeal and milk, brown toast and butter, an egg apiece, and a glass of milk each.

"The Surprise." pp. 27-30.

The surprise is a puppy, and the children give him milk to help him to grow big and strong.

"Jumpy and Tiny." pp. 43-46.

"What Pets Need." pp. 47-52.

The children learn that pets and children need milk, the right foods, play, rest and water.

"Surprises for Lunch." pp. 66-69.

"Lunch at School." pp. 76-82.

Jane and Jerry go home for an appetizing and wholesome lunch. They eat all the food on their plates and do not eat too fast. Some of the other children eat their lunches in the school yard and they, too, have good, well-balanced menus.

"Let's Guess." pp. 122-128.

In guessing what they will have for supper, Jane and Jerry and their father talk about the value of green vegetables, fruits and milk.

"The Candy Tree." pp. 129-132.

After supper Jane and Jerry find a piece of candy for each tied on a tree in the yard. They sometimes have candy after a meal but never between meals.

"Vegetable Animals." pp. 133-137.

This story of a boy making animals out of vegetables is not primarily intended to teach about foods but it could be correlated with lessons on the value of eating vegetables.

Towse and Gray. HEALTH STORIES. Book One. Curriculum Foundation Series. New York: Scott, Foresman and Co., 1933.

A general review of this book is to be found under MOUTH HEALTH.

"The Good Health Store." "Buying Good Health Meals." pp. 67-73.

By making and conducting a good health store in their classroom, the children learn that milk, vegetables, fruits, whole cereals, butter, eggs and meat are good for them.

"Follow the Leader." pp. 76-78.

One reason that Jim gives for being the best runner and jumper in the class is that he eats foods that are good for him.

PRIMERS:

Baker and Reed. FRIENDS FOR EVERY DAY. Primer. The Curriculum Readers Series. Indianapolis: The Bobbs-Merrill Co., 1934.

"To Town." pp. 82-89.

In this story the child will learn where the eggs, milk, honey and apples sold in the market come from. Good illustrations and multiple choice tests at the end add to the effectiveness of this selection.

"The Snow." pp. 142-150.

Although the streets are blocked and the cars cannot run, the milkman brings the milk for the baby, teaching the necessity of milk for the baby and an appreciation for the dependability of the milkman.

Bolenius. THE BOYS' AND GIRLS' READERS. Primer. New York: Houghton Mifflin Co., 1923.

"Playing Party." pp. 36-39.

In this little play, which may be dramatized, the refreshments are bread and milk.

"Jumping Jack." pp. 40-43.

"Jumping Jack Had a Party." pp. 44-51.

In these stories in which the toys and foods are animated, the toys eat bread, butter, meat, potatoes, apples and eggs and drink milk.

"Visiting a Farm." pp. 96-110.

During their visit to the farm, Tom and Betty see the cow being milked and help to gather the eggs.

Bryce and Hardy. PLAYTIME. Primer. New York: Newson and Co., 1927.

"The Three Drummers." pp. 103-113.

The farmer, the miller and the baker stop work to become drummers, but the people beg them to go back to work and make bread. Thus, the importance of bread is taught here.

"The Turnips." pp. 116-123.

This is an amusing story with no direct teaching.

Buckingham, B. R. PLAY DAYS, A PRIMER. Children's Bookshelf Series. New York: Ginn and Company, 1934.

"The Little Boy." pp. 88-97.

The little white cat ran away because she did not want to play with a little boy who did not eat his breakfast, the little black dog ran away because he did not want to play with a boy who sat all day in a big chair, and the little girl would not play with the little boy because she wanted to go to school, but they all came to play with him after he changed so that he liked to eat his breakfast, to jump and run, and to learn to read and count.

English and Alexander. JO-BOY, A PRIMER. Happy Hour Readers Series. Richmond: Johnson Publishing Co., 1935.

"At the Farm." pp. 91-111.

This is a group of attractively illustrated stories from which children will learn something of the importance of drinking milk and of eating eggs, apples and vegetables.

Geeks, Skinner, Withers. PLAYFELLOWS. Primer. Richmond: Johnson Publishing Co., 1928.

"Jack and Tan and Dan." pp. 7-34.

"Nell and Peter Rabbit and Pretty Polly." pp. 41-55.

Both of these stories tell about the children giving their pets food and water. The stories could very naturally lead to a discussion of the need of animals and people for water and the *right* foods.

Grady, Klapper, Gifford. PETS AND PLAY TIMES. A Primer. Childhood Readers. New York: Charles Scribner's Sons, 1932.

"In the Morning." pp. 7-16.

The large picture, in colors, of Mary and Tony eating breakfast will introduce very naturally a discussion of eating breakfast and will give the teacher an opportunity to stress the importance of eating a good breakfast before going to school.

"Baby's Breakfast." p. 80.

After reading about the baby's breakfast, first grade children will like to compare their own breakfasts with it.

Hahn. EVERYDAY FUN. Primer. New York: Houghton Mifflin Co., 1935.

"Fun at School." pp. 87-108.

This is an account of a first grade's visit to a farm where they saw the pigs, cows and calves, and turkeys.

Hardy, Marjorie. SALLY AND BILLY. Primer. Chicago: Wheeler Publishing Co., 1928.

Pictures with short sentences under them tell what Sally and Billy did one day.

"Morning." pp. 1-8.

This shows Sally eating breakfast.

"At the Farm." pp. 18-30.

Sally sees cows and hens at the farm.

"At the Store." pp. 31-34.

Sally and Billy see bananas, oranges, potatoes and they buy some bread and butter at the store.

Leavell, Breckenridge, Browning, Follis. BEN AND ALICE. Primer. Friendly Hour Series. New York: American Book Co., 1935.

"Uncle Ben's Farm." pp. 110-113.

"Good-by to Farm Friends." pp. 124-126.

"Your Farm Friends." pp. 128-129.

Ben and Alice learn that the cow gives them milk and that the hen gives them eggs and that these foods help to keep them well and strong.

Martin, Hill. AT THE FARM. A Primer. Real Life Readers. New York: Charles Scribner's Sons, 1930.

Children will enjoy these true stories illustrated with colored photographs of Bob and Nancy's experiences with the cows, calves and chickens at the farm.

Bob and Nancy drink milk for dinner and this will help in establishing the idea that children should drink milk at every meal.

Smith, Nila Blanton. AT HOME AND AWAY. First Reader. New York: Silver Burdett and Co., 1935.

"City Helpers." pp. 48-55.

This story tells about the milkman, the baker, the grocery man and how they helped Tom and Nancy to have a breakfast of oranges, milk, eggs and bread.

"Breakfast in the Country." pp. 118-123.

In this story, Tom, who is visiting Nancy in the country, watches Nancy's father milking the cows to get milk for breakfast and finds his own egg.

Tippet, James S. STORIES ABOUT HENRY. Yonkers-on-Hudson: World Book Co., 1936.

"Henry's Garden." pp. 1-22.

This story tells about Henry's work in planting and caring for the peas, beans, cabbage and tomatoes in his garden and of his mother's serving the vegetables Henry raised.

READERS:

Baker and Reed. FRIENDS IN TOWN AND COUNTRY. Indianapolis: The Bobbs Merrill Co., 1934.

"The Milkman." pp. 72-73.

This is a short poem about the milkman.

"The Little Lamb." pp. 134-139.

Children will enjoy this story in which Aunt Peg and Betty Jane give the little lost lamb milk to drink.

Beatty, John Y. STORY PICTURES OF FARM ANIMALS. Chicago: Beckley-Cardy Co., 1934.

"Cows." pp. 137-155.

In this selection are short stories telling how cows are fed, milked, pastured and housed. The facts that boys and girls need milk and that milk must be kept clean are also brought out. This reference would be appropriate to use in connection with a dairy or milk unit.

Bolenius. FIRST READER. New York: Houghton Mifflin Co., 1923.

"The Farmer." pp. 42-43.

This is a poem telling about the farmer's work. As so many primers and first readers have stories about farms and farmers, a little variety on this subject will be welcomed by the teacher and children.

"Building a House." pp. 50-57.

Two good lessons on right foods may be derived from this story, as the little boy in the story eats a good breakfast of milk, orange, oatmeal, egg and toast before he goes out to play that he has a garden with cabbages, beets, peas and carrots in it.

Bryce and Hardy. GOOD TIMES. Book One. New York: Newson and Company, 1927.

"All Useful." pp. 62-65.

"Thanksgiving in the Barn." pp. 106-111.

These two stories bring out the same idea of the usefulness and value of animals, the hens for giving eggs and the cows for giving milk.

Buckingham, B. R. PLAYING TOGETHER. The Children's Bookshelf Series. New York: Ginn and Co., 1934.

"They Ran Away." pp. 6-22.

In this story about two cows who ran away because they were tired of having nothing to do but eat grass and give milk, it is brought out that the cows give milk for children.

Dopp, Pitts, Garrison. LITTLE FRIENDS AT SCHOOL. New York: Rand McNally Co., 1935.

"In the Country." pp. 58-76.

"A Farm at School." pp. 77-98.

The stories of the children's visit to the country and of their making a farm at school offer many opportunities for teaching the importance of eating eggs, fruits and vegetables and of drinking milk.

English and Alexander. GOOD FRIENDS. Happy Hour Readers Series. Richmond: Johnson Publishing Co., 1935.

"At the Cherry Farm." pp. 114-133.

Billy and Patty enjoy visiting grandmother and grandfather on the farm. They learn about some of the foods that come from the farm and they enjoy eating them.

Gates, Huber. PETER AND PEGGY. The Work-Play Books. New York: The Macmillan Co., 1931.

"At the Farm." pp. 47-92.

The children in this story have many interesting experiences on the farm. Among them are watching the milking of the cows and helping to gather the eggs.

Gecks, Skinner, Withers. FRIENDS TO MAKE. Richmond: Johnson Publishing Co., 1928.

"Patsy and Brownie." pp. 21-23.

"The Farmer." and "Find the Picture." pp. 24-25.

"In the Hayloft." pp. 26-31.

This group of stories about Jack and Nell during their visit to the country could lead very naturally to a discussion of wholesome foods.

"The Milkman." p. 77.

This is one of a group of stories telling about the experiences of Kate and Ben during their visit to Jack and Nell in the city. As the name indicates, the short selection, illustrated by a good picture, tells how milk is delivered by the milkman in the city.

Grady, Klapper, Gifford. CITY AND COUNTRY. Childhood Readers. A First Reader. New York: Charles Scribner's Sons, 1932.

"At the Farm." pp. 43-95.

Unusually well told and illustrated is this story of the children's experiences at the farm. They watch the farmer milk the cows, learn how milk is sent to the city, and help to gather the eggs.

McLester, Amelia. IN AND OUT OF SCHOOL. A First Reader. Nashville: The Augsburg Publishing Co., Inc., 1936.

"The Thirsty Girl." pp. 40-45.

This story of the little girl who was so thirsty that she tried to drink a bucketful of water gives an excellent opportunity to teach moderation in drinking water, especially after hard play.

"Bob Bought Two Apples." pp. 76-78.

"Betty Bought Two Oranges." p. 79.

These two stories are a part of a longer story about Bob and Betty's visit to the city. Their selection of fruit instead of candy makes this a very valuable health story.

"In the Kitchen."

"A Big Lunch."

"Betty's School Lunch."

"Bob's School Lunch." pp. 112-116.

The inadvisability of eating too much jam is the moral of this group of stories. The school lunches given are very healthful ones.

"Two White Rats." pp. 117-122.

The school children learn from their experiment with two white rats that milk, fruits and vegetables promote growth, while cake, candy and jam have the opposite effect.

"The Garden." pp. 150-153.

This story may be used in connection with a garden project or with a study of vegetables.

Ringer and Downie. CITY AND COUNTRY. Book One. Citizenship Readers. Philadelphia: J. B. Lippincott Co., 1930.

"Our Garden." pp. 24-25.

This tells about a school garden and a garden at home in which lettuce, carrots, peas and beans are grown.

"Selling Peas and Beans." pp. 31-32.

In this story the children sell peas and beans from their own garden.

"A Visit to the Farm" and other stories. pp. 70-100.

This group of stories tells about Donald and Dorothy's visit to the farm and their helping Ned to take care of the garden, gather fruit, drive the cows, find eggs, et cetera.

"A Visit to Candy Land." pp. 101-119.

This is a story about two little girls whose visit to Candy Land cured them of eating too much candy, ice cream and cake.

Smith, Nila Blanton. IN CITY AND COUNTRY. The Unit-Activity Reading Series. New York: Silver, Burdett and Co., 1935.

"The Pictures on the Blackboard." pp. 41-59.

The pictures of milk, vegetables, fruits and brown bread introduce a story of a little boy who was too thin until he learned from the cat that it was milk that made her fat, from the rabbit that it was vegetables that made him fat and able to jump so well, from the pig that it was fruit and vegetables that made him fat and from the little girl that brown bread and butter and orange juice helped her to be strong and to run fast.

"Garden Stories." pp. 134-154.

This group of stories would be appropriate to read in connection with a garden unit.

Prout and Baumeister. PETS AND TOYS. New York: The University Publishing Co., 1936.

"Can You Tell?" pp. 94-95.

The pictures and riddles given here include one about milk and one about tooth brushes.

SECOND GRADE

MOUTH HEALTH

HEALTH BOOKS:

Andress, Goldberger, Dolch. THE HEALTH PARADE. Safe and Healthy Living Series. New York: Ginn and Co., 1939.

The material in this book is arranged in units dealing with different phases of health. The attractive illustrations and natural presentation of health practices in life situations make this a very good health book for use in the second grade. The first three units in the book describe the camp experiences of a family.

Unit II. "The First Thing in the Morning." pp. 15-25.

The little boy and girl in the family have to learn new ways of performing their morning ablutions at camp. Brushing their teeth and washing their tooth brushes on the back porch require certain adjustments and new techniques. An account of the things they did to start the day right and a little completion test help to summarize the teaching of the unit.

Unit VII. "The Five Doorways." "The Mouth Doorway." pp. 105-106.

In telling the children about the mouth as a doorway to the body the teacher stresses the importance of keeping teeth clean and of putting only the right things in the mouth.

Unit VIII. "Health and Sleep." pp. 112-128.

In this unit dealing with sleeping habits there is a picture and story of a little boy brushing his teeth before going to bed.

Charters, Smiley, Strang. HAPPY DAYS. Health and Growth Series. New York: The Macmillan Co., 1937.

During the six days that David and Joan spend on the farm they not only practice good health habits and eat the right foods, but they learn the reasons for doing these things. There are six chapters in the book, one for each day of the visit, with "Games to Play" (tests and things to do) at the end of each chapter. The stories have to be used consecutively. The book would be an excellent basal health book. The following stories deal primarily with teeth.

"The Tooth Ache." pp. 54-57.

"The Dentist." pp. 58-63.

In these stories David learns through experience that the dentist is his friend. He also learns the rules for taking care of his teeth and why it is important to take care of the baby teeth.

"Good Foods for Teeth." p. 83.

This is a page of pictures of foods that are good for the teeth.

"Nine Little Pigs." pp. 23-26.

In this story the fact that sunshine helps to make good teeth and bones is brought out.

Towse, Gray and Matthews. HEALTH STORIES. Book Two. Curriculum Foundation Series. Atlanta: Scott, Foresman and Co., 1934.

The authors state that the object of the book is to develop health attitudes, habits and knowledge which will lead to desirable health behavior. This is done through material based on life situations. The book can be read without difficulty by the average second grade and the stories can be used individually.

"Betty Goes to the Dentist." pp. 54-57.

The story is about Betty, who, although she takes good care of her teeth, has a little tooth ache and has to go to see her friend, the dentist. After fixing the small cavity the dentist gives her a book to tell her how to take care of her teeth.

"How to Keep Your Teeth Healthy." pp. 58-59.

"Your First and Second Teeth." p. 60.

These are attractively illustrated pages from Betty's book.

READERS:

Beaty, John Y. STORY PICTURES OF OUR NEIGHBORS. The Primary Social Studies Series. Chicago: Beckley-Cardy Co., 1938.

"How We Keep Healthy and Safe." pp. 123-182.

"The School Nurse." pp. 165-167.

This is a child's account to his mother of the nurse's sending him to the school dentist and of the dentist's telling him that his teeth are all right. The mother explains that if he had needed to have work done the school dentist would have notified her and that she would have taken him to the family dentist because the school dentist treats only the children who can not pay for dental work. While this describes the plan followed by the school dentists, it is not necessary for the children to know the distinction between the children worked for and those not worked for. If this story is used, it should be treated as a story and not applied to the local situation.

Bryce and Hardy. THE OPEN DOOR. New York: Newson and Co., 1927.

"Mother Goose Riddles." p. 75.

The riddle of the thirty white horses might lead to a discussion of the number of teeth in the first set and the number in the second set.

Buckingham, B. R. MUNCHING PETER. The Children's Bookshelf Series. New York: Ginn and Co., 1934.

"Munching Peter." pp. 7-14.

This is an amusing story about a little boy who liked to munch apples. A little rhyme brings out the fact that eating apples helped to keep his teeth white.

"Nancy and the Dentist." pp. 198-205.

While the dentist examines Nancy's teeth and fixes one little "spot" he tells Nancy about the foods she should eat to have good teeth. Simple tests at the end of the study will help children to remember the things that Nancy learned.

Suzzallo, Freeland, McLaughlin, Skinner. FACT AND STORY READERS. Book Two. New York: American Book Company, 1930.

"Keeping Clean." pp. 54-69.

This story closes with a poem by Walter de la Mare, "Little Ann's Bath." The last stanza of the poem is as follows:

"Now twelve above
And twice six beneath,
She must polish and polish
Her small sharp teeth."

By talking about the number of teeth Ann had it may be brought out that six and seven-year-old children often have their twenty baby teeth and four six-year molars and that the six-year molars are permanent teeth.

"Which Should I Do?" p. 68.

"Good Health Rules." p. 69.

Brushing the teeth is among the health habits mentioned on these pages.

FOOD

HEALTH BOOKS:

Andress, Goldberger, Dolch. THE HEALTH PARADE. Safe and Healthy Living Series. New York: Ginn & Co., 1939.

A brief review of this book is given under the section, MOUTH HEALTH.

Unit III. "The Right Kind of Food." pp. 26-43.

This unit tells of the experiences of the family in buying and eating the right foods while they are at their camp. A unique grocery store on a boat is described. The importance of drinking milk is stressed.

Charters, Smiley, Strang. HAPPY DAYS. Health and Growth Series. New York: The Macmillan Co., 1937.

A brief review of this book was given in the MOUTH HEALTH section.

"A Good Supper." pp. 14-20.

This story of Joan's learning to like salads teaches that the way to learn to like new foods is to try them and to eat a little every time they are served.

"A Walk Over the Farm." pp. 21-22.

Uncle George explains the value of green vegetables.

"The Morning Milk." pp. 44-50.

While he is milking, Uncle George tells David and Joan why they need to drink a quart of milk every day.

"A Good Breakfast." pp. 51-53.

"A Good Time." pp. 64-69.

These stories tell what the children had for breakfast, lunch and supper.

"Name Each Picture."

"Which Are Best for You?"

"Good Foods for Teeth." pp. 80-94.

These are review pages.

"Early to Rise." pp. 86-87.

David and Joan learn why they should drink plenty of water.

"The School Lunch." pp. 88-89.

"Which Lunch Is Best?" p. 107.

This story could lead to a very valuable discussion of school lunches, of what children should bring from home and of what they should select in the cafeteria.

"Fruit Instead of Candy." pp. 98-99.

In this story David and Joan and their friend, Nancy, eat fruit when they get home from school.

"Which Are Best to Eat Between Meals?" p. 108.

On this page are pictures of foods: candy, fruit, cakes, etc., from which the children are to select the ones that are best to eat between meals.

"The Birthday Dinner." pp. 155-156.

This story could be used to develop the idea that children should have their vegetables and milk before eating dessert.

"Eggs for Supper." pp. 118-119.

After giving the chickens their supper, Joan and David enjoy eating eggs for their supper.

Towse, Gray, Matthews. HEALTH STORIES. Book Two. Curriculum Foundation Series. Atlanta: Scott, Foresman and Co., 1934.

A discussion of the contents of this book is given under MOUTH HEALTH.

"The Pet Show." pp. 63-66.

In this story, which introduces the unit on foods, Amy's kitten took the prize at the pet show because he had had the right kinds of food.

"Different Kinds of Food." pp. 67-69.

This teaches that different foods help us in different ways. It tells which foods make strong muscles, which make bones and teeth and which help us to grow and keep well.

"Foods Made of Milk." p. 70.

"How You Can Make Butter." p. 71.

These two pages contain the information indicated by their titles.

"Tony's Vegetable Truck." pp. 72-77.

"Dick Gets Weighed." pp. 78-81.

Dick learned to eat vegetables so that he could ride in Tony's vegetable truck. He told the school children that because of this he weighed more and was stronger.

"Good Desserts." p. 82.

"How to Choose Meals." pp. 83-85.

These pages give the necessary information to enable the children to select foods that help to make strong teeth, bones and muscles and to choose balanced meals.

"A Riddle Game." p. 86.

By playing this game the children will remember what the different foods do for them.

"The Bear That Ate Too Much." pp. 87-90.

Children who are inclined to overeat might profit by the experience of the bear that ate too much.

"Rules for Eating." pp. 91-93.

The rules for table manners are followed by some little stories which illustrate them.

"Red-Hot Cherries." pp. 95-98.

In this story two little girls learn by experience never to taste anything unless they know that it is good to eat.

READERS:

Baker and Reed. FRIENDS HERE AND AWAY. Second Reader. The Curriculum Readers Series. Indianapolis: The Bobbs Merrill Co., 1934.

"A Farm of Long Ago." pp. 85-92.

This is grandmother's story about life on her father's farm and of how they raised their own food.

Beaty, John Y. STORY PICTURES OF FARM FOODS. Chicago: Beckley-Cardy Co., 1935.

This book tells the story of farm foods: fruits, milk, sweets, vegetables, eggs, nuts, grains and meats. It is illustrated with photographs. It would make an excellent reference book for a second or third grade studying foods.

Beaty, John Y. STORY PICTURES OF OUR NEIGHBORS. The Primary Social Studies Series. Chicago: Beckley-Cardy Co., 1938.

"How Neighbors Help Us Get Food." pp. 7-27.

"The Grocery," "Our Farm Neighbors," "The Bakery," "The Meat Market," "Where Meat Comes From," "The Dairy," "The Iceman."

These sub-titles indicate the information given in this selection.

Beauchamp, Fogg, Crampton. SCIENCE STORIES. Book Two. Curriculum Foundation Series. Atlanta: Scott, Foresman and Co., 1935.

"How Plants Get Food." pp. 72-91.

This chapter presents the facts that plants make their own food, that roots, stems and leaves have definite functions in food making and that plants cannot make food without sunlight.

"Food from Plants." pp. 92-95.

"Playing the Food Game." p. 96.

"Things to Find Out." p. 97.

These selections bring out the idea that plants furnish, directly or indirectly, all foods.

Bryce and Hardy. THE OPEN DOOR. New York: Newson and Co., 1937.

"The House with a Star Inside." pp. 76-81.

This story is based on a riddle about an apple, and will be nice to read when the health lesson is about eating fruit.

Dopp, Pitts, Garrison. OUTDOORS AND IN. Second Reader. Happy Road to Reading Series. New York: Rand McNally Co., 1935.

"The Street that Runs to the Farm." pp. 196-198.

The stories of wheat, vegetables, fruit, milk and eggs are told in this novel poem about the three streets: the one that runs to the farm, the one that runs to the station and the one that runs to the market.

Elson and Gray. THE ELSON BASIC READERS. Book Two. Atlanta: Scott, Foresman and Co., 1931.

"Grandmother's Churn." pp. 130-135.

With grandmother's help John, Tom and Sally make some butter in the old, old churn.

Elson and Runkel. CHILD LIBRARY READERS. Book Two. Atlanta: Scott, Foresman and Co., 1930.

"A Visit to the Old Mill." pp. 161-178.

After visiting the old mill and learning how corn and wheat are ground the children in the story take home a bundle of wheat, thresh it and grind it in the coffee mill.

English and Alexander. WHEELS AND WINGS. Happy Hour Reader Series. A Second Reader. Richmond: Johnson Publishing Co., 1935.

"The Old Churn." pp. 116-120.

In this story the children find the old fashioned churn and, with grandmother's help, make some butter.

"Too Much Maple Sugar." pp. 129-132.

This story tells how maple sugar is made and it also tells about the little boy who found by sad experience that he should not eat too much maple sugar.

"Tommy's Breakfast." pp. 133-137.

This story tells of the people who helped to get Tommy's breakfast of oranges, oatmeal, eggs and milk.

Hanna, Anderson, Gray. DAVID'S FRIENDS AT SCHOOL. Curriculum Foundation Series. Atlanta: Scott, Foresman and Co., 1936.

"The City School." pp. 36-39.

Large pictures showing children using different rooms in the school are followed by questions about what they are doing. The picture of the lunch room shows that each child has a bottle of milk.

"Carrots for Mr. Carrot." pp. 72-74.

The children bring carrots for their school rabbit, Mr. Carrot, and their teacher shows them a moving picture about the raising and shipping of carrots.

"The Grocery Store." pp. 76-79.

This story would be very interesting and helpful in developing a grocery store project.

"At the Farm." pp. 95-134.

This story would be invaluable to a class in developing a farm project as it describes the farm buildings, the care of the farm animals, the raising of fruits and vegetables and the operation of a modern dairy.

Hanna, Anderson, Gray. SUSAN'S NEIGHBORS AT WORK. Curriculum Foundation Series. Atlanta: Scott, Foresman and Co., 1937.

"Workers Who Produce Our Food." pp. 85-134.

In this section are good illustrations and descriptions of a bakery; of the cutting, threshing and grinding of wheat; of tomatoes growing; and of a cannery. They are presented from the point of view of appreciation of workers, but they will make interesting supplementary reading for the health lessons on foods.

Hardy and Hecox. GOOD COMPANIONS. BOOK TWO. New York: Newson and Co., 1931.

"The Picnic." pp. 8-14.

The menus of picnics may be healthful as was the one in this story.

"Irmgard's Cow." pp. 147-156.

This is a story of a little Swiss girl and her cow by Maud Lindsay.

"The Cherry Tree." Christina G. Rossetti. p. 158.

"The Apple Tree." Rose Fyleman. p. 159.

These are short poems in praise of the ripe cherries and apples on the trees.

Miller, Jane. DEAN AND DON AT THE DAIRY. New York: Houghton Mifflin Co., 1936.

This is a story book describing the experiences of Dean and Don on their father's dairy farm. They learn a great deal about cows and the different processes that go on in a modern dairy. They raise a pet calf of their own. This is a good book for a grade library.

Ringer and Downie. SCHOOL DAYS. Book Two. Citizenship Readers. Philadelphia: J. B. Lippincott Co., 1930.

"The Market." pp. 67-72.

In this story a second grade makes an early morning visit to the market to see how the foods are brought in and arranged.

"Making Food Posters." p. 73.

"A Marketing Play." p. 74.

These suggestions of activities will help children to apply their knowledge about foods.

"A Marketing Story." pp. 75-89.

Children will enjoy reading this story about the little girl's experiences in trading eggs and butter for oranges to make the filling for her father's birthday cake.

Smith, Nila Blanton. ROUND ABOUT YOU. Unit Activity Reading Series. New York: Silver Burdett and Co., 1935.

"Country Vegetables." p. 36.

This poem by Eleanor Farjeon, which is to be read to the children by the teacher, would be good to use in introducing a study of the value of eating vegetables or in motivating a garden project.

"The Magic Rice Kettle." pp. 37-44.

This is an old tale to be read purely for enjoyment.

"The Second Grade Party." pp. 44-53.

Children will enjoy reading about another second grade's giving a party for the children in the third grade and of the pleasure they had in preparing the wholesome refreshments of cornbread, butter and cocoa.

"Betty Visits Grandmother." pp. 54-60.

By eating carrots every day during her visit to grandmother, because mother had said, "Be sure to eat everything that grandmother gives you," Betty learned to like carrots.

"The Campfire Dinner." pp. 61-66.

Mother, father and Tom enjoy preparing and eating a campfire dinner of fish, roasted corn and potatoes.

Suzzallo, Freeland, McLaughlin, Skinner. FACT AND STORY READERS. Book Two. New York: American Book Co., 1930.

"Which Should I Do?" p. 68.

"Good Health Rules." p. 69.

Drinking milk and eating fruit and vegetables are among the health rules formulated for themselves by the children in this story.

"How to Take Care of Pets." pp. 132-137.

Good health rules for pets, as well as for children, include drinking milk and eating vegetables.

"The Roll of Bread." pp. 166-174.

This story tells of the work of the baker, the miller and the farmer in making the roll of bread.

"At the Market." pp. 187-189.

"What Vegetable Am I?" p. 190.

The story, with illustrations showing peas, carrots, cabbages, celery and other vegetables at the market, and the game which follows will help children to learn more about the food values of vegetables.

THIRD GRADE

MOUTH HEALTH

HEALTH BOOKS:

Andress, Goldberger, Dolch. GROWING BIG AND STRONG. Safe and Healthy Living Series. New York: Ginn and Co., 1939.

The title of the book suggests the effective approach that is made to the problem of healthy living. The material is arranged in units dealing with the different phases of health. The illustrations are very attractive. This seems to be a very satisfactory and helpful third grade health book.

Unit V. "A Tooth Show." pp. 89-106.

The tooth show is one that the third grade gave for the benefit of the first grade. They presented, by means of stories and posters, information about the baby teeth, the six-year molars, permanent teeth, right foods and brushing the teeth.

Burkard, Chambers, Maroney. HEALTH STORIES AND PRACTICE. Health, Happiness, Success Series. New York: Lyons and Carnahan, 1936.

Stories of fairies, elves, brownies, princes and knights motivate the health teachings in this book.

"The Foolish Elf." pp. 53-56.

This story of the elf who had the toothache because he forgot to brush his teeth will help children to realize the importance of brushing their teeth regularly.

"Pearly Palaces." pp. 57-63.

The purpose of this story is not only to bring out the rules for caring for the teeth, but also to create a friendly feeling toward the dentist.

"A Sword to Win." pp. 9-13.

"The Giant and the Silken Threads." pp. 14-19.

In both of these stories, which deal with habit formation, the habit of brushing the teeth twice every day is emphasized.

"Health Habits for You." pp. 233-256.

Throughout these review pages the proper habits of caring for the teeth are applied to every day situations.

Charters, Smiley, Strang. GOOD HABITS. Health and Growth Series. New York: The Macmillan Co., 1937.

The objectives of this book are to interest the children in establishing good health habits and to give them scientific information about health. The stories are based on life situations. Each story is followed by questions which have actually been asked by children. The answers to these questions and suggestions of things to do are given next. The subject matter is arranged in units. It is not necessary to take the units in the order in which they are given.

"Going to the Dentist." pp. 91-102.

After pulling Philip's loose tooth, the dentist explains to him about the temporary and permanent teeth and the six-year molars. He also tells him how to take care of his teeth.

Hahn and Winslow. LET'S GROW. New York: Charles E. Merrill Co., 1938.

A good description of this book is given in the following paragraph from the preface:

The chapters present in sequence a well-rounded set of group experiences in the school environment. Each chapter presents an important fact or attitude as health content, at the same time subtly suggesting to the teacher a classroom procedure and the degree of the school's responsibility for developing the pupils' reactions and practices with respect to the content. The book thus presents content and a pattern of procedure for a year's health program at no sacrifice of the interest of the story to the pupils.

Chapter XI. "Guides to Cleanliness." pp. 83-90.

In this story the children decide that brushing the teeth twice a day should be one of the items to be included in their guide for cleanliness.

Chapter XVI. "A Coat of Tan." pp. 117-121.

While the relation of sunshine to good teeth is not mentioned, this story brings out the fact that sunshine is important for growing boys and girls and makes good suggestions as to ways for them to spend time out of doors.

Chapter XXII. "Riddles to Answer." pp. 161-178.

The habit of brushing the teeth is included in this review and summary of the health content of the book.

Towse, Matthews, Gray. HEALTH STORIES. Book Three. Curriculum Foundation Series. Atlanta: Scott, Foresman and Co., 1935.

The authors state that "the main objective of this book is to help form attitudes which will lead to desirable health behavior." The book stresses definite health habits and gives a good background of health information. As the material is based on life situations it provides opportunities for pupil activity which will help in establishing desirable health habits. The book is divided into the following parts: Keeping Clean, Building a Strong Body, Caring for Our Bodies, Food Habits, Keeping Sickness Away, Keeping Safe and Keeping Happy. The parts may be used in any order or single stories may be used as needed.

"Why We Need Good Teeth." p. 67.

"Baby Teeth." pp. 68-69.

"The Second Teeth." pp. 70-71.

"What Teeth Look Like." p. 72.

"Keeping the Teeth Clean." pp. 73-74.

"Food and Exercise for the Teeth." p. 75.

The physiological information about the first and second sets of teeth, why the baby teeth should have good care, why the six-year molars are so important, how a tooth looks and how it grows in the jaw, should promote interest in observing rules for caring for the teeth.

READERS:

Leavell, Breckenridge, Browning, Follis. FRIENDS TO KNOW. Book Three. The Friendly Hour Series. New York: American Book Co., 1935.

"A Happy Day with Happy Children!" pp. 25-34.

In the conversation of the two little girls in this story the importance of visiting the dentist frequently is well presented.

Ringer and Downie. GOOD CITIZENSHIP READERS. Book Three. Philadelphia: J. B. Lippincott Co., 1930.

"Toothbrushes of Many Lands." pp. 125-127.

This tells about the toothbrushes used by children in Japan, in Arabia where having clean teeth is a part of the religion, and in Africa where the caravan runner always carries his toothbrush with him.

White and Hawthorne. INTERESTING THINGS TO KNOW. New York: American Book Co., 1930.

"Good Health: Care of the Teeth." pp. 224-225.

Eating proper foods and brushing the teeth carefully are the two rules for caring for the teeth formulated in this selection.

FOODS

HEALTH BOOKS:

Andress, Goldberger, Dolch. GROWING BIG AND STRONG. Safe and Healthy Living Series. New York: Ginn and Co., 1939.

This book is reviewed under the section on MOUTH HEALTH.

Unit I. "Growth Helpers." pp. 3-24.

In this unit foods are discussed, milk is emphasized, and the fact that milk helps to make good teeth is brought out.

Unit II. "What You Eat." pp. 27-50.

This group of stories brings out what the different foods do. An account of a third grade keeping an eating chart may suggest a similar activity to the third grade that reads it.

Burkard, Chambers, Maroney. HEALTH STORIES AND PRACTICE. Health, Happiness, Success Series. New York: Lyons and Carnahan, 1936.

A short description of the way the material in the book is presented is given under MOUTH HEALTH.

"The King of Good Health." pp. 124-131.

In this story the foods that children should eat are animated and are grouped as "Growth Soldiers," "Muscle Builders," and "Strength Soldiers."

"The Elf and the Giants." pp. 132-139.

The elf and the giants in this story are very helpful and help Jimmie to learn to eat his meals at regular times, to chew his food well, and to rest or play quietly after eating.

"Food for Fairies." pp. 140-145.

This story and the follow-up questions and suggestions give many good reasons why children should drink at least one quart of milk a day.

"The Health Fairy." pp. 146-151.

This story teaches the importance of a well-balanced diet and gives practical suggestions to guide children in selecting wholesome foods.

"Healthful Meals." p. 252.

"For Your Scrapbook." pp. 253-256.

These menus and suggestions for making a scrapbook provide for a good review of right foods.

"Two Sets of Twins." pp. 217-222.

Their experiences in raising twin pigs taught the twin children that plenty of good food at regular hours is necessary in order to grow.

Charters, Smiley, Strang. GOOD HABITS. Health and Growth Series. New York: The Macmillan Co., 1937.

There is a brief review of this book under MOUTH HEALTH.

"Fruit is Best." pp. 31-43.

Attractive illustrations of very cheerful looking children buying fruit and eating fruit at recess and a photograph of a farm boy with his hat full of apples, accompany an interesting story which gives the real reasons why fruit is better than sweets between meals.

"Good Milk for All of Us." pp. 43-55.

The information given in this story about milk in many lands and about keeping milk clean and safe will appeal to third grade children.

"Our Daily Bread." pp. 55-64.

Besides giving the story of bread from the planting of the grains of wheat to the making of bread, this story tells about other grains and their uses in other countries, how graham flour got its name and why the whole cereals are better than the refined ones.

"Building Meals." pp. 64-77.

The examples of good breakfasts, lunches and dinners are followed by practical questions and answers about the foods that are best for children to eat.

"Mealtime, A Happy Time." pp. 77-81.

The adoption of the good eating habits suggested in this story would make meals pleasant for the whole family.

"Safe Water for All of Us." pp. 102-110.

The importance of using individual cups, of using the fountain correctly and of drinking four glasses of water daily are the habits stressed in this story.

Hahn and Winslow. LET'S GROW. New York: Charles E. Merrill Co., 1938.

This book is described at length under the section on MOUTH HEALTH.

Chapter V. "Seeds, Leaves, Roots." pp. 28-35.

Chapter VI. "Many Foods in One." pp. 36-45.

Chapter VII. "Animal Foods That Help Us." pp. 46-53.

Chapter VIII. "Our Wonderful Machines." pp. 54-59.

The names of these chapters indicate the things that the third grade children in the book learned about foods.

Chapter XIX. "The Cheerio Cafeteria." pp. 60-71.

The third grade children decided to have a play cafeteria in their classroom so that they would learn how to select good lunches in the school cafeteria.

Towse, Matthews, Gray. HEALTH STORIES. Book Three. Curriculum Foundation Series. Atlanta: Scott, Foresman and Co., 1935.

A review of this book is given under MOUTH HEALTH.

"At the Museum." pp. 31-33.

"Hinges." p. 34.

"Foods That Build Strong Bodies." p. 35.

Children will be more interested in eating bone building foods after reading these selections from which they will learn something about the bony structure of the body.

"Building Strong Muscles." pp. 40-41.

This subject has a strong appeal for children, especially boys, of this age. They will be interested in learning about the muscle building foods.

"Heat in the Body." pp. 50-51.

"Tano and Sipsu." pp. 52-53.

The information about food as a source of heat is illustrated by the story of the Eskimo boy and his dog.

"Food Habits." pp. 97-116.

In this unit on foods there are stories and information relative to planning meals and eating the right foods.

"The New Cooks." pp. 99-101.

In this story the children apply their knowledge of foods to planning and cooking a meal.

"Good Menus." pp. 102-104.

This suggests that in planning meals the children should keep in mind what the different foods do for them and stresses the importance of eating good breakfasts.

"A Camp Appetite." pp. 105-107.

The two main ideas presented in this story are that exercise and fresh air will help to make good appetites and that children can learn to like the right foods.

"Peggy's Problem." pp. 108-110.

Peggy's problem was that the neighbors fed her dog on cake and candy. The children will enjoy this story and will learn from it that eating cake and candy between meals is not a good habit.

"Why We Need Good Food Habits." p. 111.

"My Food Habits." p. 112.

These pages review the habits discussed in the preceding stories.

READERS:

Baker and Reed. FRIENDS AROUND THE WORLD. Third Reader. Indianapolis: The Bobbs Merrill Co., 1934.

"The Year on the Farm." pp. 49-62.

This story describes spring in the apple orchards, on the wheat farms of the Middle West and Far West and on the cattle farms; summer on the wheat farms; fall on the great corn farms of the Middle West; and winter in the orange and grapefruit orchards of California and Florida.

"Queenie and Her Calf." pp. 63-72.

"The Pasture." p. 73.

This story and poem may be used for supplementary reading in a unit of study about milk.

Bryce, Hardy, Turpin. STORYLAND. Newson Readers. Book Three. New York: Newson and Co., 1927.

"The Bread Box." pp. 104-109.

The little girl in this story learns how wheat is grown, harvested, threshed and ground into flour while she is travelling through the large wheat fields, the bread box of the world.

Buckingham, B. R. THE GREAT IDEA. The Children's Bookshelf Series. New York: Ginn and Co., 1934.

"The House by the Road." pp. 15-23.

This story tells how a little old woman cared for two children who were sent to live with her and of the foods that helped the children to grow and be healthy.

Elson and Gray. ELSON BASIC READERS. Book Three. New York: Scott, Foresman and Co., 1931.

"The Wonderful Gardener." pp. 150-153.

The story tells of Luther Burbank and his work in growing better fruits and vegetables.

"The Holiday." pp. 154-158.

The baker, the milkman, the grocer and others all work while children have holidays.

"The Milkman." p. 159.

This is a short poem about the milkman.

English and Alexander. WIDE WINDOWS. A Third Reader. Happy Hour Readers. Richmond: Johnson Publishing Co., 1935.

"The Cornfield." p. 152.

This is a poem describing how the cornfield looks to the child in the tree.

"The New Thresher Hand." pp. 197-203.

This story of the little boy who became a good thresher hand gives a good picture of threshing wheat in the big wheat fields.

Hardy and Hecox. GOOD COMPANIONS. Book Three. New York: Newson & Co., 1931.

"Why Tom Was Chosen." pp. 238-243.

Tom was chosen to play on the team because of his size. His failure to play well in a football game and the subsequent investigation by his classmates revealed that he did not eat the right kinds of food and that he ate a great deal of candy between meals. By following the healthful bill of fare made out for him by his classmates Tom became stronger and quicker in playing games.

Leavell, Breckenridge, Browning, Follis. FRIENDS TO KNOW. The Friendly Hour Series. Book Three. New York: American Book Co., 1935.

"Two Thanksgiving Parties." pp. 90-108.

The story of bread and the story of milk are presented in a very novel way in this interesting story.

Ringer and Downie. GOOD CITIZENSHIP READERS. Book Three. Philadelphia: J. B. Lippincott Co., 1930.

"Burbank Day." pp. 184-192.

This story tells about the life of Luther Burbank and his work in improving fruits and vegetables.

"A Sweetmeat Story." pp. 193-226.

This fanciful story tells how the people in "The Kingdom of the Greedy" were cured of their inordinate appetites for sweets.

Wahlert and Hahn. NEIGHBORS NEAR AND FAR. New York: Houghton Mifflin Co., 1935.

"Where the Tall Corn Grows." pp. 159-210.

The following titles, "The Corn Show," "How Indian Corn Came into the World," "The Popcorn Patch," "The Cornfield," (poem), "Our Big Corn Crop," "The Seven Maidens," (Indian Story) and "Indian Villages," (poem), indicate the way this subject is treated. In "Our Big Corn Crop" the many uses of corn are brought out.

White and Hanthorne. INTERESTING THINGS TO KNOW. New York: American Book Co., 1930.

"The Market." pp. 196-205.

In this story the class visits the market where vegetables and fruits are attractively arranged. They then study how tools and foods were developed.

"Luther Burbank." pp. 206-208.

This tells how Burbank developed many new fruits and fine vegetables.

"Good Health Rules." p. 209.

These rules are concerned with eating the right foods.

"A Good Breakfast." p. 210.

Three menus from which the children are to choose the most healthful will help children to apply their knowledge of foods to a practical situation.

FOURTH GRADE

MOUTH HEALTH

HEALTH BOOKS:

Andress, Goldberger, Jenkins, Dolch. SAFETY EVERY DAY. Safe and Healthy Living Series. New York: Ginn and Co., 1939.

The publishers give the following excellent description of this book:

Much of the material is made realistic and interesting through the use of short stories, with everyday boys and girls as their characters. The ten units, each with an excellent preview to set the stage for learning, discuss playing safely, safety in foods, preventing the spread of diseases, protecting and caring for the teeth. . . . The simple objective tests and suggestions for socializing the work, . . . and the many lively pictures, all contribute to make this book valuable.

Unit IV. "Safety First for the Teeth." pp. 64-83.

The subject of mouth health is most effectively presented under the following headings: "The Parts of a Tooth," "Milk Makes Strong Teeth," "Straight Teeth," "Four Kinds of Teeth," "Why Teeth Decay," "How to Brush Your Teeth" and "Why the Dentist Cleans Your Teeth."

Andress, J. Mace. BOYS AND GIRLS OF WAKE-UP TOWN. New York: Ginn and Co., 1924.

In the preface the author states that the book is "an imaginative, dramatic story of the health achievements of the children in a sleepy school and a sleepy community." The incentive for this waking up was an attendance contest between this and a near-by school. As it is all one story, the chapters have to be used in the order in which they appear in the book. The following stories deal with the care of the teeth.

Chapters V and VI. pp. 22-35.

These two chapters deal with the formation of desirable health habits and, of course, that of brushing the teeth twice a day is included.

Chapters XIII and XIV. pp. 89-107.

Why, how and when to brush the teeth, the necessity of caring for the baby teeth and the foods that are good for teeth are some of the questions answered in these two chapters.

Chapter XXVI. pp. 199-206.

Going to the dentist twice a year and brushing the teeth twice a day are among the health rules reviewed in this chapter.

Burkard, Chambers, Maroney. HEALTH BY DOING. Health Happiness, Success Series. New York: Lyons and Carnahan, 1936.

In this book the material is arranged in units of study, each unit containing a very good illustrative story, scientific health information, suggestions for pupil activity and testing material. Each unit is independent of the others and may be used as needed.

Unit 3. pp. 18-30.

The purpose of this unit is to teach children how to form habits. The habit of brushing the teeth regularly is one of the habits used as an illustration.

Unit 6. pp. 63-78.

In this unit the subject of taking good care of the teeth is approached by pointing out that good teeth are of great value for eating, talking, appearance and health. Another good feature of the unit is the discussion of the six-year molars.

Charters, Smiley, Strang. LIVING HEALTHFULLY. Health and Growth Series. New York: The Macmillan Co., 1937.

The objectives of this book are to interest the children in establishing good health habits and to give them scientific information about health. The stories are based on life situations. Each story is followed by questions which have actually been asked by children. The answers to these questions and suggestions of things to do are given next. The subject matter is arranged in units. It is not necessary to take the units in the order in which they come in the book.

"Having a Health Examination." pp. 16-27.

This tells of a typical health examination by a physician and a school nurse. In this particular case the child was found to have dental defects and was advised to go to her dentist.

"Having a Tooth Filled." pp. 125-135.

This is an account of a little girl's visit to the dentist. After filling the cavity in the child's tooth the dentist explained to her the structure of the teeth and told her how to have good teeth.

Ferguson, H. W. A CHILD'S BOOK OF TEETH. New York: The World Book Co., 1932.

This book is written in a popular style and contains animated illustrations. The author, who is a dentist, presents basic facts about the structure and the care of the teeth in a way that will stimulate the child's interest in dental health.

Hahn and Winslow. LET'S STAY WELL. New York: Charles E. Merrill Co., 1938.

The following paragraph from the preface of the book gives a good description of the way in which the material is presented:

The chapters present in sequence a well-rounded set of group experiences in the school environment. Each chapter presents an important fact or attitude as health content, at the same time subtly suggesting to the teacher a classroom procedure and the degree of the school's responsibility for developing the pupils' reaction and practices with respect to that content. The book thus presents content and a pattern of procedure for a year's health program at no sacrifice of the interest of the story to the pupils.

Chapter XIX. "Peter's Teeth." pp. 155-165.

Peter's teeth needed brushing, and his big sister gave him money to buy two tooth brushes, one for morning and one for night. She also showed him how to brush his teeth. He went with some of his classmates to visit a dentist who was connected with a dental college. From this visit all of the children learned a great deal about tooth-building foods.

Chapter XX. "Dr. Molar Finds Some Winners." pp. 166-175.

Dr. Molar visits the classroom and teaches the children about their six-year molars and other permanent teeth. He tells them how to take care of their teeth.

READERS:

Leavell, Breckenridge, Browning, Follis. TRAILS OF ADVENTURE. New York: American Book Co., 1935.

"Keeping Well and Strong." pp. 161-169.

Two of the children in this story tell about going to the dentist.

FOOD

HEALTH BOOKS:

Andress, Goldberger, Jenkins, Dolch. SAFETY EVERY DAY. Safe and Healthy Living Series. New York: Ginn and Co., 1939.

This book is reviewed under MOUTH HEALTH.

Unit II. "Safety in Eating." pp. 24-39.

In the part of this unit dealing with malnutrition, Bob learns that "malnutrition means not eating and digesting enough of the right kinds of food for the needs of the body," and what kinds of food the body needs. He and his classmates have a morning lunch of milk and crackers. They learn why milk is good for them.

Andress, J. Mace. THE BOYS AND GIRLS OF WAKE-UP TOWN. New York: Ginn and Co., 1924.

This book is reviewed under MOUTH HEALTH.

Chapters V and VI. pp. 20-35.

The habit of eating wholesome foods is emphasized as a means of keeping well.

Chapter XI. pp. 68-78.

Chapter XII. pp. 79-87.

In these chapters the children learn that milk makes them grow and that tea and coffee are harmful.

Chapter XVI. pp. 116-121.

The habit of eating fruit every day is discussed in this chapter.

Chapter XVIII. pp. 130-138.

Eating more vegetables and learning to like new vegetables are the outcomes of a garden project described in this chapter.

Chapter XX. pp. 145-155.

In this chapter on training for baseball and other games the importance of eating the right foods and avoiding candy, soft drinks and tobacco is emphasized.

Chapter XXI. pp. 167-172.

The importance of buying food from clean stores and markets is shown in this chapter.

Chapters XXIII, XXIV, XXV, XXVI, XXVII. pp. 173-214.

Throughout these chapters, which bring the story to a very satisfactory climax and conclusion, the teachings of the preceding chapters are reviewed.

Burkard, Chambers, Maroney. HEALTH BY DOING. Health, Happiness, Success Series. New York: Lyons and Carnahan, 1936.

This book is reviewed under MOUTH HEALTH.

Unit 3. pp. 18-30.

The purpose of this unit is to help children learn how to form habits. Good habits of eating are included in those that children need to form.

Unit 12. pp. 153-180.

This unit discusses the different kinds of foods and their uses: foods for growth, foods for strength and foods for health. Some sample meals are given and suggestions which will aid children in their selection of food are made. Suggestions for preparing foods are also offered. The importance of drinking plenty of milk and clean, safe water and of avoiding coffee, tea, and drinks containing alcohol is presented.

Unit 13. pp. 181-193.

This unit deals with the correct habits of eating.

Charters, Smiley, Strang. LIVING HEALTHFULLY. Health and Growth Series. New York: The Macmillan Co., 1937.

This book is reviewed under MOUTH HEALTH.

"Bringing Camp Life Home." pp. 3-16.

Billy is glad that mother's meals are like camp meals as he wants to eat foods that will make him strong.

"Gaining Weight." pp. 27-38.

The children in this story visit their Uncle Charlie, who is carrying on an experiment with white rats. They learn that food

makes a great difference in health and growth and that good foods for children to eat are whole wheat bread and milk, fruits and vegetables, some raw and some cooked.

"Trying to Prevent Colds." pp. 78-96.

The part that diet plays in preventing colds is presented here.

"Raising Vegetables for Winter." pp. 142-150.

This is an interesting story about a boy who raised vegetables and stored them away so that he and his family had one raw and one cooked vegetable every day during the winter.

Elson and Gray. THE ELSON BASIC READERS. Book Four. New York: Scott, Foresman and Co., 1931.

"Oranges, America's Golden Harvest." pp. 226-232.

This story tells how oranges are picked from the trees, dry-cleaned, moved about in the packing plant, graded, wrapped and packed in boxes.

Patch and Howe. SURPRISES. Nature and Science Readers. New York: The Macmillan Co., 1937.

"Some Food From Plants."

1. Sugar. pp. 61-70.
2. Seeds to Eat. pp. 71-75.
3. Juicy Fruits. pp. 76-84.
4. Vegetables. pp. 85-89.

"Science Games."

1. A Grocery Party. pp. 90-91.
2. Food Rimes. pp. 92-93.

As the name suggests, the material in the book is presented as nature and science studies. However, the above selections present many interesting facts about foods and provide for a nice correlation of Reading, Science and Health.

Sewell and Stockton. TEAM WORK. Citizenship Readers. Philadelphia: J. B. Lippincott Co., 1930.

"The Children's Carnival." pp. 27-38.

One of the features at the carnival was a picture show of a Florida orange grove.

"Ann Among the Apples." pp. 39-45.

This describes a modern apple orchard and the gathering, grading, packing and shipping of apples.

"Apple Seed John." pp. 46-50.

This poem tells about an interesting character who went about planting apple trees all over the country.

"Pedro from Porto Rico." pp. 51-65.

Pedro tells about a large sugar plantation and sugar mill in Porto Rico.

"Banana Land." pp. 66-74.

This story tells how bananas are grown and how they are taken to market.

"A Trip to the Wheat Fields." pp. 75-80.

"How the Miller Helps Us." pp. 81-86.

"The Windmill." (A poem by Longfellow). pp. 87-89.

"A Visit to the Bakery." pp. 90-98.

From these stories children will learn the story of bread from the planting of wheat to the wrapping of the loaf.

"Bread of Various Countries." pp. 99-103.

This touches on the subjects of the bread or cereals used by the Indians, the Russians and the Chinese and on the bread substitutes used in the tropics.

FIFTH GRADE

MOUTH HEALTH

HEALTH BOOKS:

Andress, Goldberger, Hallock. DOING YOUR BEST FOR HEALTH. Safe and Healthy Living Series. New York: Ginn and Co., 1939.

The following paragraph from the publishers' description tells how the material in this book is presented:

How many pupils make the most of their own possibilities for good health and success? This important question furnishes the main center of interest for this book. Each of its nine lively units shows the pupil how he may most effectively capitalize his natural equipment—his body and his mind—to make everyday living more worth while.

Unit III. "Helping the Body to Make the Best Use of Food." pp. 54-87.

In this unit, in the discussion of the six food groups, the relation of minerals and vitamins to good teeth is explained. The importance of having healthy teeth as an aid to digestion and the ways of having healthy teeth are also discussed.

"A Safe and Happy Vacation." pp. 229-237.

Visiting the dentist is advocated as one of the things to do in getting ready for a vacation.

Brownell, Ireland, Giles. EVERYDAY LIVING. Health and Safety Series. New York: Rand McNally and Co., 1935.

"Getting Ready for School." pp. 5-10.

In this part of Unit One the importance of brushing the teeth before going to school and instructions as to the correct way of brushing the teeth are presented.

Burkard, Chambers, Maroney. BUILDING FOR HEALTH. Health, Happiness, Success Series. New York: Lyons and Carnahan, 1936.

The following statements from the foreword will give the teacher a good idea of the manner in which the health material in this book is presented:

In this text the factual information concerning physiology, hygiene and sanitation is authoritative and scientific.

The arrangement of the text material into units enables the pupils and teacher to concentrate upon a coördinated series of activities that relate to a definite part of the field of health education.

The aids included under "Things to Do and Think About" have been planned as integral parts of the text. They amplify and reinforce the pupils' progress toward the essential goals of doing, knowing, thinking and feeling.

Unit IV. pp. 143-157.

This unit goes very thoroughly into the subject, "Good Teeth and How to Keep Them." It tells about the different kinds of teeth: biting, tearing and grinding teeth; about the two sets of teeth, when the first teeth are lost and the second teeth appear; how to build good teeth and the food elements that are needed; how a tooth decays; how to keep teeth clean; and why to visit the dentist twice a year.

Charters, Smiley, Strang. WISE HEALTH CHOICES. Health and Growth Series. New York: The Macmillan Co., 1935.

The authors state that the objectives of this series of books are: to lead the children to like the subject of health, to help the children to establish habits of health and to furnish the children with the latest scientific information about health and disease. This book for the fifth grade naturally presupposes that desirable health habits have been formed and deals more with the reasons for these habits from the scientific and physiological standpoints.

"Digesting Food." pp. 40-58.

Under the topic, "Why Chew Well," the necessity of having strong teeth in order to chew well is brought out. Eating right

foods, brushing the teeth and visiting the dentist are suggested as ways of having good teeth. Diagrams of the two sets of teeth showing when the different teeth usually appear are also given.

"Sweets in Your Daily Food." pp. 96-104.

Illustrations of the American Indians and of the people of Iceland, who had good teeth until they began eating sweets, white flour and other refined foods, show that the diet should include a minimum of sweets.

Ferguson, H. W. A CHILD'S BOOK OF TEETH. New York: World Book Co., 1932.

This book is written in a popular style and contains animated illustrations. The author, who is a dentist, presents basic facts about the structure and the care of the teeth in a way that will stimulate the child's interest in dental health.

Turner and Collins. HEALTH. New York: D. C. Heath and Co., Publishers, 1924.

This book was developed from several years of experimental studies in Malden, Massachusetts, and the "material and suggested procedures have been found successful in actual practice." The book gives the reasons which underlie the development of proper health habits in which the children have been trained in the lower grades. The first five chapters are general and introductory in character and should awaken the children's interest in being healthy.

Chapter VI. "Does Your Ship Need Repairs?" pp. 35-42.

This points out that much time, money and pain are saved by going to the dentist twice a year and having defects discovered and corrected before they become serious.

Chapter XIV. "The Teeth." pp. 93-102.

This chapter tells about the two sets of teeth, the six-year molars and why they are often mistaken for baby teeth, the substances of which teeth are made, how decay often starts and how to take care of the teeth.

FOOD

HEALTH BOOKS:

Brownell, Ireland, Giles. EVERYDAY LIVING. Health and Safety Series. New York: Rand McNally and Co., 1935.

"Getting Ready for School." pp. 5-10.

In this part of the first unit children are urged to eat a good breakfast before going to school. A menu of a well-balanced breakfast is given.

Unit IV. "The Foods You Eat." pp. 111-141.

This unit discusses the body's need of food for growth, strength, repair and fuel; the digestive processes; the amount of food needed; the different kinds of food; the importance of keeping food clean and fresh; ways of helping the whole family to enjoy meal-times; foods that aid in eliminating waste materials from the body; and substances that are harmful to the body.

Burkard, Chambers, Maroney. BUILDING FOR HEALTH. Health, Happiness and Success Series. New York: Lyons and Car-nahan, 1936.

This book is reviewed under MOUTH HEALTH.

Unit I. pp. 1-26.

Part of this unit is entitled, "The Business of Growing Up," and it serves as an introduction not only to the unit on foods, but also for the other subjects in the book. It discusses the importance of health and growth, tells about the signs of growth and suggests things that will help children to grow.

Unit I. "Foods to Make You Go and Grow." pp. 26-45.

This part of the unit describes: 1. The bony framework and joints of the body and tells what food elements are needed for their growth and the foods that supply these elements; 2. The muscles and the foods they need for growth and strength; 3. The body's power or energy and how foods furnish this; 4. The digestive system.

Unit I. "What Foods to Eat." pp. 46-91.

This part of the unit contains very interesting and thorough discussions of vitamins, minerals and coarse, bulky foods as "Protecting and Regulating Substances in Foods"; the importance of milk, meat, eggs and cereals; the importance of using many different vegetables and fruits; and the uses of sugar and fats. Many good suggestions for the menus for the day's meals are given, the necessity for keeping food and milk clean and safe is stressed and the importance of good habits of eating is emphasized. "Things to Do and Think About" suggests many worthwhile activities.

Unit II. pp. 92-110.

The importance of drinking enough water, the uses of water in the body, the need of safe, clean water in towns and cities, and the harmful effects of coffee, tea and soft drinks are the main points brought out in this selection.

Charters, Smiley, Strang. WISE HEALTH CHOICES. Health and Growth Series. New York: The Macmillan Co., 1935.

This book is reviewed under MOUTH HEALTH.

"Planning and Eating Meals." pp. 3-40.

This chapter discusses the body's need of food for the growth of cells and tissues, for furnishing power to work and play and for keeping the body in good working order. Suggestions are made for planning healthful meals and for menus for breakfast, lunch and dinner. Information is also given about the proper care of foods.

"Digesting Food." pp. 40-58.

The explanation of the digestive system and the process of changing food so that the body can use it is accompanied by a good diagram.

"Water, Safe and Satisfying." pp. 58-71.

The need of the body for water, the amount needed every day and suggestions as to good times to drink water are included in this chapter.

"Milk in Your Daily Meals." pp. 71-78.

Children will be interested in the accounts of experiments with groups of children and with white rats which proved that milk is necessary to normal growth and health. Among the facts that are taught about milk are that it helps to build strong bones and that calcium in milk is necessary for bones and teeth and also to keep the entire body in order.

"Meat in Your Daily Meals." pp. 87-96.

The relative food values of meat, cheese, fish, eggs, peas and beans are discussed.

"Sweets in Your Daily Food." pp. 96-104.

This shows that sugar has many serious disadvantages. The children are urged to substitute fruit and natural sweets for candy and sweet drinks.

"Fruits and Vegetables in Your Daily Food." pp. 104-121.

This unit is introduced with the story of the prevalence of scurvy among sailors long ago and the discovery that lemon and orange juice would prevent this condition. Other illustrations which prove that fruits and vegetables are necessary to good health are given. Suggestions are given as to how to get fruits and vegetables all the year round, how to include them in meals and steps to be taken in making a garden.

Turner and Collins. HEALTH. New York: D. C. Heath and Co., Publishers, 1924.

This book is reviewed under MOUTH HEALTH.

Chapter VII. "Growth and Repair Material." pp. 43-50.

Chapter VIII. "Go Material." pp. 51-57.

Chapter IX. "Regulators and Food Magic." pp. 58-66.

Chapter X. "Iron Foods and Bone Builders." pp. 67-72.

These chapters about foods compare the body to a ship in its need for repairs and fuel, regulating material to keep everything running smoothly, and iron and mineral substances to strengthen certain parts of the body. Protein is called the growth and repair material and the best sources of protein are given, milk as the very best source being emphasized. Starches, sugars and fats are called "Go Materials" or fuel foods. The best sources of each are given, the reasons for not eating too much sugar are explained and the fact that food that is not used as fuel is stored in the body as fat is brought out. The importance of the "Regulators": water, fruits and vegetables, in keeping the digestive system clean, is effectively presented. The vitamins are called magic materials and something of their function in helping the foods to build the body and keep it running is explained. The need of the body for iron and calcium is discussed, and the sources of each are given. Here, again, milk supplies the building food as milk is the best source of calcium which is necessary for building strong bones and teeth.

Chapter XI. "Digestion." pp. 73-78.

This chapter explains how the digestive system changes the foods into a few simple substances that can be dissolved, taken up by the blood and carried to the different parts of the body.

Chapter XII. "Keeping a Good Digestion." pp. 79-83.

This chapter tells that studies have been made which show that being happy and cheerful at meal-time helps digestion. Some other habits which will help digestion are also suggested.

Chapter XIII. "When to Eat." pp. 84-92.

This chapter discusses the importance of regular habits of eating, what foods children should eat if they need to eat between meals and why they should not eat sweets between meals.

Chapter XX. "Tea and Coffee." pp. 142-147.

The harmful effects of drinking tea and coffee are well presented in this chapter.

READERS:

Buckingham, B. R. IN A GREEN VALLEY AND OTHER STORIES. The Children's Bookshelf Series. New York: Ginn and Co., 1934.

"In a Green Valley." pp. 7-10.

"The Cheese Cave." pp. 11-12.

"The Golden Balls of Alkmaar." pp. 13-16.

The first of this group of stories by Virginia Olcott tells how the famous Swiss cheeses are made, the second tells about the making

of Roquefort cheese in southwestern France and the third describes a weekly cheese market in Holland where Edam cheese is sold.

"A Queer Contraption." pp. 234-247.

This story of the invention of the reaping machine by Cyrus McCormick will furnish interesting supplementary reading material in connection with the study of wheat, as this invention made possible the great wheat fields of the Middle West.

Elson and Gray. THE ELSON BASIC READERS. Book Five. New York: Scott, Foresman and Co., 1931.

"Cyrus Hall McCormick Invents the Reaping Machine." pp. 277-284.

The story of this invention is given and its value to the farmer is conveyed by an account of how the early settlers reaped grain.

"The Story of Bread." pp. 285-291.

This tells how the people in the stone age ground grains, about the bread eaten by the Egyptians and American Indians and describes modern mills and bakeries.

Patch and Howe. THROUGH FOUR SEASONS. New York: The Macmillan Co., 1937.

"A Wild Apple Tree in Fall." pp. 1-9.

Children will enjoy reading this story of the apple tree which furnished the boys and girls with rosy apples and the birds with insect eggs.

"Healthy Potatoes." pp. 11-25.

This tells of the many things that the farmer must know and do to keep his potato plants healthy.

"Corn." pp. 27-38.

In addition to telling about the raising and the uses of corn, this chapter tells something of the digestive processes involved in converting starch into a simple sugar.

"Eggs in Cold Storage." pp. 39-47.

This tells how the salmon leave the ocean and travel up fresh-water streams to find good places to deposit their eggs. It also tells about the fish hatcheries.

"The President's Salmon." pp. 225-232.

This describes the Bangor Salmon Pool and tells that the first salmon taken each year is sent to the President of the United States. It also explains how the building of dams prevented the fish from getting to their spawning places until laws were passed

requiring that fishways be built at these dams. Photographs of the Bangor Salmon Pool and of a fish hatchery in Maine add to the interest of this selection.

Rugg and Krueger. COMMUNITIES OF MEN. New York: Ginn and Co., 1936.

"The Community's Pantry." pp. 116-131.

This tells where people in small, middle-sized and large towns get their food, how and why the retail stores buy from wholesalers, where the wholesaler gets his large supply of food and how the large public markets developed.

Wright, Tirey, Crites. NEW PATHS. A Fifth Reader. Richmond: Johnson Publishing Co., 1934.

"Happy Days on the Farm." pp. 90-103.

This story tells about two city children who visited their grandparents on the farm. They learned how wheat is grown, harvested, threshed, stored and ground.

"A Wonderful Egg." pp. 104-116.

In this story from *Marty and Company* by Rose B. Knox the children will learn a great deal about raising chickens.

"People Must Like Pancakes." pp. 195-207.

This is a description of a large, modern mill which makes pancake flour.

"A Rocky Ford for Breakfast." pp. 261-267.

This is an account of how Rocky Ford cantaloupes are raised in southeastern Colorado and how they are shipped long distances.

"A Glass of Pure Milk." pp. 347-357.

This story describes a modern dairy and tells of the many provisions made to insure good, rich, pure milk from healthy cows.

SIXTH GRADE

MOUTH HEALTH

HEALTH BOOKS:

Andress, Goldberger, Hallock. BUILDING GOOD HEALTH. Safe and Healthy Living Series. New York: Ginn and Co., 1939.

The publishers give the following very good description of the book:

The predominating interest of this book is food and its effect on health, strength and appearance. The pupil is shown how he may help his body to make the most advantageous use of food, and how he may grow strong and healthy. Organized

into ten units, the discussions cover growth, body food-needs, digestion, the teeth. . . . Interesting historical accounts acquaint pupils with outstanding events in the progress of science.

Unit IV. "Good Teeth." pp. 71-101.

This is an unusually good unit giving an interesting and thorough treatment of the following phases of mouth health: how teeth grow, the baby teeth, the permanent teeth, the six-year molars, how teeth are fed, tooth-building foods, how the dentist helps to protect teeth, how hidden centers of infection are discovered by means of the X-ray, the causes of crooked teeth and how to brush the teeth. There are very good questions for discussion and tests at the end of the unit.

Brownell, Ireland, Giles. **HELPFUL LIVING.** New York: Rand McNally and Co., 1935.

The purpose of this book is to help children understand the problems which they must solve in order to live happily with other people. The book is divided into large units each of which deals with some practical situation.

"Taking Care of the Teeth and Mouth." pp. 83-91.

The diagrams will help children to understand the explanations of the deciduous and permanent sets of teeth and the structure of the teeth. Several good reasons for taking care of the teeth are given, as well as rules for caring for them. An illustration showing how decay starts and spreads will help the children to realize the value of regular and frequent visits to the dentist.

Burkard, Chambers, Maroney. **THE BODY AND HEALTH.** Health, Happiness and Success Series. New York: Lyons and Carnahan, 1936.

In this book the material is arranged in units of study, each unit containing a very good illustrative story, scientific health information, suggestions for pupil activity and testing material. Each unit is independent of the others and may be used as needed.

"Our Tools for Chewing." pp. 87-102.

This part of the unit, "Foods and Health," gives good discussions of chewing food thoroughly, temporary and permanent teeth, good foods for teeth, how a tooth decays, brushing the teeth, exercising the teeth and visiting the dentist regularly.

Charters, Smiley, Strang. **HEALTH PROBLEMS.** Health and Growth Series. New York: The Macmillan Co., 1935.

The authors give as the objectives of this series of books: leading the child to like the subject, helping the child to establish habits of health and furnishing the child with the latest scientific information about health and disease. This book for the sixth

grade naturally presupposes that desirable health habits have been formed and deals more with the reasons for these habits from the scientific and physiological standpoints.

"Preventing Tooth Decay." pp. 72-81.

This tells how teeth are built and how they decay. In discussing the prevention of decay the fact is brought out that, while scientists can not agree on the cause of decay, cleanliness and diet are important factors.

Ferguson, H. W. A CHILD'S BOOK OF TEETH. New York: World Book Co., 1932.

This book is written in a popular style and contains animated illustrations. The author, who is a dentist, presents basic facts about the structure and the care of the teeth in a way that will stimulate the child's interest in dental health.

Turner and Collins. CLEANLINESS AND HEALTH. New York: D. C. Heath and Co., 1926.

This text was developed from several years of experimental studies in Malden, Massachusetts, and the material has been used successfully in the classroom. The purpose of the book is to present the physiological basis of healthful living. The first chapter deals with the importance of health, the second suggests ways in which to measure health and the third chapter reviews the most important health rules and the reasons for keeping them. As the title suggests, the theme of the book is cleanliness, and this subject is approached through a study of bacteria and their relations to health.

Chapter VIII. "Teeth." pp. 74-83.

This chapter explains very thoroughly the development of the teeth, the structure of the teeth, the nature of tooth decay, ways of preventing tooth decay and the importance of saving the teeth.

Appendix. pp. 214-233.

This suggests procedures for helping children to improve their health habits, one of which is brushing the teeth twice a day.

READERS:

Patch and Howe. SCIENCE AT HOME. New York: The Macmillan Co., 1937.

"Body Builders." pp. 385-399.

In this chapter about proteins, minerals and water, the fact is brought out that calcium and phosphorus are necessary for good teeth.

FOOD**HEALTH BOOKS:**

Andress, Goldberger, Hallock. BUILDING GOOD HEALTH. Safe and Healthy Living Series. New York: Ginn and Company, 1939.

As stated in the description of the book given under MOUTH HEALTH, the predominating interest of the book is food and its effect on health. The first two units are the ones most related to mouth health.

Unit I. "How Boys and Girls Grow." pp. 2-21.

This unit will help children to understand what growth is, what living things are made of and what the cells need for growth.

Unit II. "The Food Needs of the Body." pp. 22-49.

This unit explains how the different kinds of foods help the body to grow. There is an especially good discussion of vitamins and tables showing the best sources of vitamins. Costs of foods and planning meals are also considered. At the end of the unit there are some very practical problems for the children to solve. One of the suggested activities has to do with selecting wholesome lunches.

Brownell, Ireland, Giles. HELPFUL LIVING. New York: Rand McNally and Co., 1935.

This book is reviewed under MOUTH HEALTH.

"Eating at School." pp. 41-47.

This part of Unit One suggests good menus for lunches that are brought from home, tells how children may cook a hot dish at school and gives some rules to be followed in a school cafeteria.

"Eating Right Kinds of Food." pp. 91-102.

This part of Unit Three, "Taking Care of Your Health," discusses the functions and best sources of the body building foods, foods that give energy, vitamins, the need of the body for water, choosing foods wisely and good eating habits.

"Eating in Public Places." pp. 129-131.

This part of the unit on "Living in the Community," discusses the importance of choosing clean eating places.

Burkard, Chambers, Maroney. THE BODY AND HEALTH. Health, Happiness and Success Series. New York: Lyons and Carnahan, 1936.

This book is reviewed under MOUTH HEALTH.

Unit I. "Foods and Health." pp. 1-102.

In the first part of this unit, "Choosing Foods Wisely," body-building foods, health protecting foods and foods for heat and energy are discussed. Good suggestions are made for planning meals and for the school lunch.

Charters, Smiley, Strang. HEALTH PROBLEMS. New York: The Macmillan Co., 1935.

This book is reviewed under MOUTH HEALTH.

"Unseen Worlds." pp. 3-11.

One of the unseen worlds is the "land of health," and eating the right food is one of the laws of this land.

"How to Make and Keep Milk Safe." pp. 12-22.

This explains the process of pasteurization and also suggests ways of keeping the milk safe in the home.

"Aiding Digestion." pp. 22-28.

This tells how fear and haste hinder digestion and how pleasant meals help digestion.

"A Healthful School Lunch." pp. 29-37.

This gives some lunch menus from which children are to choose good lunches, explains why some of the lunches are good and some are poor, gives some recipes for fruit candy and suggests things which children may do to improve their school lunches.

"Buying and Cooking Food." pp. 175-186.

The topics discussed under buying food are the cleanliness of the market or store, the freshness of the foods and the amount of money to be spent for the different kinds of food. Suggestions are also given for the most healthful methods of cooking food.

Turner and Collins. HEALTH AND CLEANLINESS. New York: D. C. Heath and Co., 1926.

This book is reviewed under MOUTH HEALTH.

Chapter III. "Some Health Rules and the Reasons for Keeping Them." pp. 16-41.

In this chapter there is a good review of the groups of food-stuffs and of what each group does for the body.

Chapter IX. "What the Body Is Made Of." pp. 84-98.

This chapter gives a general description of the structures of the body. Its purpose is to show "what the units of body structure

are and how these units—the cells—are supplied with food and relieved of their waste products.” Four important reasons why the body needs a great deal of water are given.

Chapter X. “Workshops of the Body.” pp. 98-108.

This chapter gives a good description of the process of digestion and suggests habits which will aid digestion.

Chapter XI. “Keeping the Workshops Clean.” pp. 109-115.

This chapter teaches that eating wholesome food, including plenty of fruits and vegetables, and drinking large amounts of water every day will help to maintain the health and cleanliness of the digestive tract.

Chapter XVI. “Harmful Substances.” pp. 164-177.

This chapter deals with the ways in which alcohol, drugs and tobacco affect the body.

Chapter XVIII. “The Care of Food.” pp. 188-190.

Besides emphasizing the importance of cleanliness in the care and preparation of food and milk, this chapter describes the different ways of preserving food: refrigeration, canning, drying, smoking, pickling, salting, and preserving with sugar.

Appendix. pp. 214-233.

This suggests class procedure for helping children to improve their health habits. Of course, eating the right foods is taken into consideration.

READERS:

Buckingham, B. R. THE MASQUERADE AND OTHER STORIES. The Children's Bookshelf Series, New York: Ginn and Co., 1934.

“Helping Nature.” pp. 405-417.

This story describes a large fish hatchery in northern Maine.

Nida. EARLY MEN OF SCIENCE. Science Readers for Silent Reading. Book VI. New York: D. C. Heath and Co., 1926.

“Plants and How They Grow.” pp. 123-133.

This selection describes the use of the root hairs of the plant in gathering food and water from the soil, how the sap is changed to food in the leaves with the help of the sunshine, how seeds are scattered and how man uses plants for food.

"Burbank, the Plant Wizard." pp. 134-140.

"Burbank Creates New Plants." pp. 141-147.

These selections about Luther Burbank tell about his work in improving varieties of fruits and vegetables. Some of the specific examples given are of his development of an early variety of sweet corn and of his growing some prune trees more quickly by budding them on almond trees.

Patch and Howe. SCIENCE AT HOME. New York: The Macmillan Co., 1937.

"Fuel Foods." pp. 365-384.

The explanation of how fuel furnishes both heat and energy will help children to understand how certain foods supply the body with warmth and power. A thorough explanation is given of how plants that have chlorophyll manufacture sugar with the help of the sunlight and of how plants change sugar into starch in order to store it. Fats, as another source of energy, are discussed. Proteins are also included in the fuel foods but they are discussed more fully in the next chapter.

"Body Builders." pp. 385-399.

This tells how the nitrogen of proteins is necessary to the cells of the body and gives the best sources of proteins; discusses the minerals as body builders, with especial emphasis on the importance of calcium and phosphorus for the bones, iron in the blood and iodine to keep the body healthy; and explains the necessity of keeping up the supply of water in the body.

"Vitamins." pp. 401-423.

This chapter tells about vitamins A, B, C and D, the best sources of each and diseases that are caused by a deficiency of each.

Sewell. MAKERS OF AMERICA. Citizenship Readers. Book Six. New York: J. B. Lippincott Co., 1930.

"Burbank, the King of Plant Life." pp. 139-143.

This tells about Luther Burbank and some of his accomplishments in improving plants and vegetables.

"Johnny Appleseed." pp. 212-214.

This is the story of Jonathan Chapman who was born in Massachusetts in 1775 and who went through the west planting apple trees.

SEVENTH GRADE

MOUTH HEALTH

HEALTH BOOKS:

Andress, Goldberger, Hallock. HELPING THE BODY IN ITS Work. Safe and Healthy Living Series. New York: Ginn and Co., 1939.

The following excerpts from the publishers' description of the book give a good idea of the content and plan of the book:

With interest centering on anatomy and physiology, this book shows the pupil how intelligent care of the body will keep it healthier and safer. History is frequently introduced as background for discussion. Among the many illustrations are photographs in full color, original historical drawings and pertinent anatomical diagrams.

Unit IV. "Food and How It Is Prepared for Use in the Body." pp. 84-115.

In this unit the need of the teeth for calcium and phosphorus is mentioned. The relation of teeth to digestion and ways of taking care of the teeth are also discussed.

Burkard, Chambers, Maroney. PERSONAL AND PUBLIC HEALTH. Health, Happiness, Success Series. New York: Lyons and Carnahan, 1937.

The following from the authors' foreword is a good description of this book:

A persistent effort has been made to enter the various topics through an approach well within the common experiences and interests of the pupils. In keeping with the observant and inquiring mind and the broadening interests of older pupils, increasing stress has been laid upon the scientific principles underlying the study of health problems.

Unit III. "The Selection of Foods." pp. 75-136.

In discussing foods in their relation to problems of growth and maintenance of the body, the need of teeth for calcium, phosphorus and vitamins A, C and D is explained. Sources of these food elements are given in tables.

Unit IV. "The Mouth and Nose." pp. 151-169.

This unit is introduced with the statement that "intelligent care of the teeth is based upon an understanding of their formation and structure and a knowledge of the principal diseases that injure them." A clear, concise, scientifically sound and interesting discussion is given of the structure of the teeth, the growth and development of the teeth, tooth decay, how the teeth may be centers, or foci, of infection, the importance of visiting the dentist regularly and ways of caring for the teeth.

Turner, C. E. PHYSIOLOGY AND HEALTH. Revised Edition. Boston: D. C. Heath and Co., 1935.

In this chapter the following questions are raised and answered: "Are the teeth alive?", "How are the teeth made?", "Do some people have harder teeth than others?", "What does the physiology of the tooth suggest concerning its care?" The fact that Paul Revere advertised that he could make teeth is used to introduce a discussion of dentistry then and now, dentistry as a branch of medicine, how teeth may affect health and vice versa, the formation of the teeth and the relation of food to mouth health. As the title of the book suggests the physiological approach to the importance of caring for the teeth is used.

In addition to these health texts, which are especially good ones for use in the seventh grade, any of those listed for the sixth grade may be used.

READERS:

The State adopted basal and supplementary seventh grade readers were reviewed, but no selections of special significance to mouth health were found.

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Appendix

THE APPENDIX

Contains food charts, copies of some of the follow-up material which the school dentists furnish to the teachers and a copy of one issue of "Jack's Trav-
elogue," the news release supplied to school papers.

FOOD VALUES

CALCIUM AND PHOSPHORUS

Common Foods as Sources of Calcium and Phosphorus

Name of Food	Calcium	Phosphorus	Name of Food	Calcium	Phosphorus
ALMONDS	*	**	KALE	**	....
ASPARAGUS	**	*	LEMONS	*	....
BEANS (Dry)	**	**	LETTUCE	*	....
BEANS (Green)	**	LIVER	....	**
BEEF	*	MILK	**	**
BEETS	*	OATMEAL	*	**
BRAN	*	**	ORANGES	*	....
CABBAGE	*	*	PEANUTS	....	**
CARROTS	*	*	PEAS	....	**
CELERY	*	*	PINEAPPLE	*	*
CHEESE	**	**	PRUNES	*	*
CHICKEN	*	PUMPKINS	....	*
CHOCOLATE	*	**	RAISINS	....	*
CLAMS	*	SHELL FISH	*	....
COCOA	**	SPINACH	*	....
CORN	*	STRING BEANS	....	*
CREAM	**	*	TURNIP TOPS	**	....
EGGS	**	TURNIPS	*	....
EGG YOLK	**	WALNUTS	*	**
FIGS	*	*	WHOLE RYE	....	**
FISH	*	WHOLE WHEAT	....	**

* Good source. ** Excellent source.

This chart is based on data from the following sources: Research Department of the H. J. Heinz Company, The National Live Stock and Meat Board and the Bureau of Home Economics of the United States Department of Agriculture.

FOOD VALUES

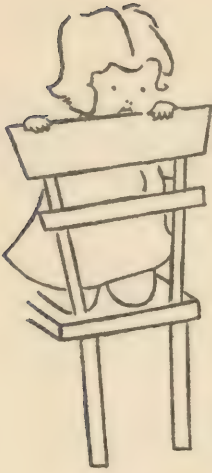
VITAMINS

Common Foods as Sources of Vitamins

Name of Food	Vitamins			Name of Food	Vitamins		
	A	C	D		A	C	D
APRICOTS	**	----	----	LIVER	----	*	**
APPLES	----	*	----	MILK (Whole)	*	----	----
ASPARAGUS	*	**	----	MUTTON FAT	----	----	*
BANANAS	*	*	----	ONIONS	----	*	----
BEANS (Green)	*	*	----	ORANGES	*	**	----
BEEF FAT	*	----	*	PEACHES	*	*	----
BEEF LIVER	**	----	----	PEAS (Green)	*	**	----
BEETS	----	*	----	PEPPERS	**	**	----
BROCCOLI	**	----	----	PINEAPPLE	----	**	----
BUTTER	**	----	*	POTATOES (Irish)	----	*	----
CABBAGE	*	**	----	POTATOES (Sweet)	**	----	----
CARROTS	**	*	----	PRUNES	*	----	----
CELERY	*	*	----	RADISHES	----	**	----
COD LIVER OIL	**	----	**	RHUBARB	----	*	----
COLLARDE	**	**	----	RUTABAGAS	----	*	----
CREAM	**	----	*	SALMON & SAR- DINE OIL	----	----	**
EGG YOLK	**	----	*	SALMON & SAR- DINES	----	----	*
FISH ROE	**	----	----	SOY BEANS	*	----	----
GRAPEFRUIT	----	**	----	SPINACH	**	**	----
HALIBUT LIVER OIL	**	----	**	SQUASH	*	----	----
KALE	**	----	**	TOMATOES	*	**	----
LEMON JUICE	----	**	----	TURNIP GREENS	**	**	----
LETTUCE	*	**	----	TURNIPS	----	*	----
LIMES	----	**	----	WATERMELON	*	*	----

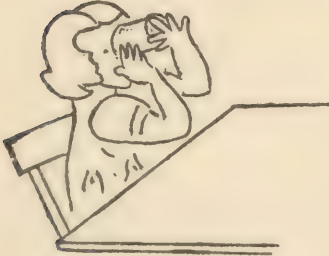
* Good source of vitamin. ** Excellent source of vitamin.

This chart is based on data from the following sources: Research Department of the H. J. Heinz Company, The National Live Stock and Meat Board and the Bureau of Home Economics of the United States Department of Agriculture.



This is Nancy.
Nancy has
good teeth.

Nancy eats
Vegetables.
Vegetables are
good.
Vegetables are
good for
teeth.
Do you eat
Vegetables?



Nancy drinks milk.
Milk is good.
Milk is good for teeth.
Do you drink milk?



Nancy eats fruit.
Fruit is good.
Fruit is good for teeth.
Do you eat fruit?



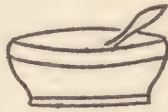
Nancy plays in the sunshine.
Sunshine is good for Nancy.
Sunshine is good for you.
Do you play in the sunshine?



Nancy brushes her
teeth.
She brushes them
every morning.
She brushes them
every night.
Do you brush your
teeth?

A Matching Game

These foods are your friends. They will build good teeth for you. Their names are at the bottom of the page. Write their names under their pictures. Color them. Be sure to eat them.



apple
cereal
carrot

egg
lettuce
tomato

celery
milk
orange

Bobby and Zip

Bobby ran all the way home from school. He had forgotten to do something that morning and he had been worrying about it all day.

When Bobby came in sight of his home Zip, his little dog, ran to meet him. Zip looked at Bobby as if he wanted to tell him something. Zip did not need to tell Bobby that he had not been fed. That was what Bobby had been worrying about all day.

Bobby and Zip raced to the house. They went straight to the pantry. Bobby put some food in Zip's plate. Zip began to eat, and Bobby went to tell his mother that he was at home.

Mother was glad to see Bobby. She reminded him that this was the day for him to go to see Dr. Carson, his dentist. Bobby and Dr. Carson were good friends.

Zip and Dr. Carson were good friends, too. In fact, Dr. Carson had given Zip to Bobby. Dr. Carson was sure that a boy who took such good care of his teeth would take good care of a dog. Bobby had taken good care of Zip and was very proud of him.

Bobby and his mother both thought it would be nice to take Zip to see Dr. Carson. Zip seemed to think so, too, for he wagged his tail when Bobby told him that he could go.

This was Zip's first visit to Dr. Carson's office. He saw many funny looking things. He wanted to investigate them but, being a well-behaved dog, he stood just where Bobby told him to stand.



Zip watched Dr. Carson and Bobby. Dr. Carson cleaned Bobby's teeth. Zip's teeth were already clean and white. Dr. Carson examined each one of Bobby's teeth. Zip could see that Bobby was having a good time. When Dr. Carson said that Bobby's teeth were all right, Bobby smiled and Zip wagged his tail.

Dr. Carson patted Bobby on the back. He was glad that Bobby was still taking good care of his teeth and of Zip. Bobby did not tell Dr. Carson that he had forgotten to feed Zip that morning, and Zip did not tell on Bobby.

Instead of telling Dr. Carson that he had forgotten to feed Zip, Bobby told him that he remembered about taking care of his teeth. He told Dr. Carson four things that boys and girls must do to have good teeth. These are the four things:

1. Brush your teeth twice a day.
2. Eat the right foods.
3. Exercise your teeth.
4. Visit your dentist at least twice a year.

Dr. Carson asked Bobby to name some of the right foods. These are the foods that Bobby named: milk, fruits, vegetables, eggs, and whole grain breads and cereals.

Zip wanted to tell Dr. Carson about his food, but Bobby whistled for him to come and go home.

FILL THE BLANKS

Zip was
 Dr. Carson was
 Bobby forgot to
 Bobby remembered to

Brush your teeth
 Eat the
 Visit your dentist at least
 Foods that are good for your teeth are:

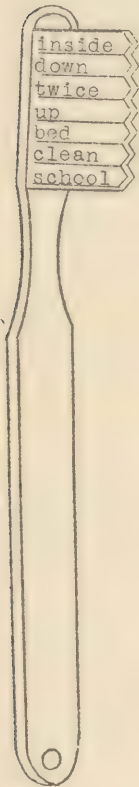
.....

twice a year; Bobby's dog; right foods; milk, fruits, vegetables, eggs, whole grain breads and cereals; twice a day; take care of his teeth; Bobby's dentist; feed Zip.



Fill the Blanks

You will find the words that you need written on the bristles of the tooth brush.



1. I should brush my teeth to keep them.....*S*.....
2. I should brush my teeth at least*tw*.....
a day.
3. I should brush my teeth before I go to*bed*.....
and before I go to*sch*.....
4. I should brush on my lower teeth.
5. I should brush on my upper teeth.
6. I should brush on the too.

Twenty White Horses

"Twenty white horses on a red hill;
Now they tramp,
Now they champ,
Now they all stand still."



When you were five or six years old you heard this Mother Goose riddle, and, maybe, you could not guess what the twenty white horses were. After you knew the answer, you said the rhyme to one of your playmates and, to help him guess it, you told him that the twenty white horses were in his own mouth.

You were right then but, if you were to tell one of your classmates, today, that he had twenty white horses in his mouth, you would be wrong. Do you know why?

Yes, the twenty white horses in this old, old rhyme were your teeth but they were your **BABY TEETH**. How do we know? because you had *twenty* baby teeth. You may have some of your baby teeth yet and, if you have, you must take good care of them. You wonder why you need to take care of teeth that will get loose and come out. The main reason is that you want to have a clean, healthy mouth. Another reason is that the first teeth are guides for the second teeth. When one of your second teeth is ready to come through, the baby tooth under which it is growing gets loose and comes out. If you lose your baby teeth too soon, your second teeth may not come through in straight rows. However, if you have neglected your baby teeth and they have decayed, the dentist may have to extract them.

The second teeth are called **PERMANENT TEETH**. The dictionary says that permanent means to "stay to the end." That is exactly what you want your second set of teeth to do, for, if you lose them, no other teeth will grow in their places. You will have thirty-two permanent teeth. Take care of them so that they will be really and truly permanent.

Your first permanent teeth came through when you were about six years old. That is why they are called "six-year molars." The six-year molars are very important teeth. Take good care of yours because they will help to keep your permanent teeth in line after they have come through your gums.

* * * *

The following sentences tell some of the things that the story tells you about your teeth. Some of the sentences tell about your first set of teeth. Some tell about your second set of teeth. If the sentence tells about your first teeth, make a check (✓) at the end of the line under "First Teeth." If it tells about your permanent teeth make a check under "Permanent Teeth."

	First Teeth	Permanent Teeth
1. No other teeth will grow in their places.	-----	-----
2. They get loose and come out.	-----	-----
3. They are the guides for the second teeth.	-----	-----
4. The six-year molars come through when a child is about six years old.	-----	-----
5. There are twenty of them.	-----	-----
6. They should have good care until they become loose and come out.	-----	-----
7. They grow under the roots of the first teeth.	-----	-----
8. There are thirty-two of them.	-----	-----
9. The six-year molars help to keep the permanent teeth in line.	-----	-----
10. People call them baby teeth.	-----	-----



YOUR TOOTH BRUSH, RIGHT FOODS, CHEWING EXERCISE and YOUR DENTIST will help you to have good teeth. The parts of sentences written below will tell you about these four helpers. Read them. Write each one under the proper heading.

will build my teeth.
 is furnished by chewing coarse foods.
 should be my own.
 will prevent small decayed spots in my teeth from becoming larger.
 should be visited twice a year.
 are necessary when I am growing because my teeth are being built.
 should be used before going to school and before going to bed.
 will help to keep my teeth clean.
 is necessary to keep my teeth and gums healthy.
 is a good friend.
 are milk, green vegetables, fruits, eggs, whole grain breads, meats and fish.
 will cause my jaws to expand and make room for my permanent teeth.

I. MY TOOTH BRUSH

1.
2.
3.

II. RIGHT FOODS

1.
2.
3.

III. CHEWING EXERCISE

1.
2.
3.

IV. MY DENTIST

1.
2.
3.

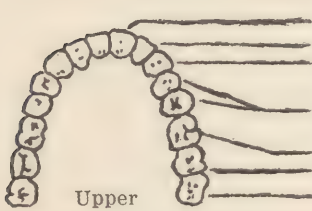
Now read number I silently, reading "My tooth brush" with each sentence. Try to remember three things about your tooth brush. Do the same with numbers II, III, and IV.

You have often heard that a horse's age can be told by looking at his teeth.

Did you know that a good dentist can probably tell your age by looking at your teeth? This is no magic trick of his. He can do it because he knows the ages at which the permanent teeth usually appear in a child's mouth. By studying the following chart, you, too, can know this.



THE SECOND TEETH AND THE AGES AT WHICH THEY USUALLY APPEAR

	Central Incisor	6- 8 years
	Lateral Incisor	7- 9 years
	Cuspid	9-13 years
	Bicuspid	8-12 years
	Six Year Molar	5- 7 years
	Twelve Year Molar	12-14 years
	"Wisdom Tooth"	17-25 years

The lower teeth have the same names and appear at the same ages.

Your dentist can tell something that is of much more important than your age by looking at your teeth. He can tell whether or not you have been eating the right foods.

The materials for building and maintaining your teeth come from the foods that you eat. The materials essential for building and maintaining good teeth are calcium, phosphorus, and the vitamins A, C, and D. Calcium and Phosphorus might be called the building materials, as the teeth are composed largely of these two minerals, and the vitamins might be called the builders, as each vitamin has certain work to do. Vitamin A is especially concerned with growth. Vitamin D helps the body to assimilate the calcium and phosphorus. Vitamin C helps the teeth to retain the calcium. All three vitamins are needed for the health of the teeth and gums. To have good teeth you must eat foods that contain these materials. The following table shows the best sources of these food elements.

*Legend: Ca (calcium), P (phosphorus), *(fair), **(good), *** (very good).*

Food	Vitamins					Food	Vitamins				
	Ca	P	A	C	D		Ca	P	A	C	D
Milk	***	***	***			Oranges	**		*	***	
Lettuce	**		**	***		Apples				**	
Cabbage	**	**	**	***		Eggs	*	*	***		**
Carrots	**	**	***	**		Fish		***			
Spinach	***		***	***		Beef		**			
Tomatoes			**	***		Cod Liver Oil			***		***

You will notice that cod liver oil is a food and that it is the best source of vitamin D. The sunshine is another source of this vitamin.

People who have studied foods and the relation of foods to teeth recommend that your daily diet include the following foods:

One quart of milk

One serving of meat or fish

One egg

One orange or tomato

(Canned tomatoes and tomato juice)

One additional fruit

Two or three vegetables, one leafy

Whole grain breads and cereals

Cod liver oil in winter

MAKE A LIST OF:

A. The permanent teeth usually found in the mouth of a

1. nine-year-old child. 2. twelve-year-old child.

B. The foods that are the best sources of

1. Ca., 2. P., 3. Vitamin A., 4. Vitamin C., 5. Vitamin D.





JACK'S TRAVELOGUE

Whiteville, Friday, January 12, 1940.

We started the year right by giving three shows on the very first day. We were in Orange County. Hillsboro, the County Seat, is a very old town and was once the State Capital. In the cupola of the Court House there is a clock that was made in England in 1766.

Chapel Hill is in Orange County. The University of North Carolina is located there. It is the oldest State University in the United States. It opened January 16, 1795, but the first student did not get there until February 12. He did well to get there then, as he walked 170 miles from Wilmington.

Old East is the oldest State University building in the country. The bricks for it were made of clay and were burned with wood from the University lands. A friend in Wilmington gave some sea shells which were taken by boat to Fayetteville and then by wagon to Chapel Hill. The shells were burned in a kiln to make lime for the mortar used to hold the bricks together.

Lime is needed not only for good mortar, but also for good teeth and bones. It is called calcium and is an important element in our diet. Milk is a good source of calcium. That is why every child should drink a quart a day. Green vegetables also contain calcium.

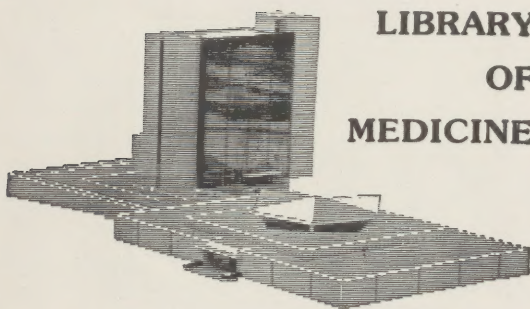
Judy is always saying that vegetables will help us to have good teeth. Growing vegetables is her hobby. She certainly has had a good time this week in Columbus County because many vegetables are raised here. Some of the children have told her about their fathers' truck farms. The farmers raise vegetables and send them to big cities for the people, who haven't gardens, to buy.

We are sorry that we have to leave Whiteville and Columbus County this afternoon. All of the people have been so nice to us. Dr. Floyd Johnson, the County Health Officer, is one of my best friends.



Tigara

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